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ABSTRACT

One of 15 core modules in a 22-module series designed to train vocational education curriculum specialists (VECS), this guide is intended for use by both instructor and student in a variety of education environments, including independent study, team teaching, seminars, and workshops, as well as in more conventional classroom settings. The guide has five major sections. Part I, Organization and Administration, contains an overview and rationale, educational goals and performance objectives, recommended learning materials, and suggested reference materials. Part II, Content and Study Activities, contains the content outline arranged by goals. Study activities for each goal and its corresponding objectives follow each section of the content outline. The content focus is on describing the characteristics of a variety of instructional strategies for organizing vocational education programs, specific standards for selecting curriculum experiences, and curriculum selection for different educational levels. Part III, Group and Classroom Activities, suggests classroom or group activities and discussions keyed to specific content in the outline and to specific materials in the list of references. Part IV, Student Self-Check, contains questions directly related to the goals and objectives of the module, which may be used as a pretest or posttest. Part V, Appendix, contains suggested responses to the study activities from part II and responses to the student self-checks. (HD)



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Module 6:

Selecting Instructional Strategies for Vocational Education

STUDY GUIDE
(TEACHING/LEARNING MODULE)

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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-Study Guide-

Module 6

**SELECTING INSTRUCTIONAL
STRATEGIES FOR
VOCATIONAL EDUCATION**

This document is one of a series of teaching/learning modules designed to train Vocational Education Curriculum Specialists. The titles of all individually available documents in this series appear below:

INTRODUCTORY MODULES

1. The Scope of Vocational Education
2. Roles of Vocational Educators in Curriculum Management
3. Current Trends in Vocational Education
4. Organization of Vocational Education
5. Legislative Mandates for Vocational Education
6. The Preparation of Vocational Educators

CORE MODULES

1. Important Differences Among Learners
2. Learning Processes and Outcomes
3. Applying Knowledge of Learning Processes and Outcomes to Instruction
4. Assessing Manpower Needs and Supply in Vocational Education
5. Laying the Groundwork for Vocational Education Curriculum Design
6. Selecting Instructional Strategies for Vocational Education
7. Derivation and Specification of Instructional Objectives
8. Development of Instructional Materials
9. Testing Instructional Objectives
10. Fiscal Management of Vocational Education Programs
11. Introducing and Maintaining Innovation
12. Managing Vocational Education Programs
13. Basic Concepts in Educational Evaluation
14. General Methods and Techniques of Educational Evaluation
15. Procedures for Conducting Evaluations of Vocational Education

SEMINARS AND FIELD EXPERIENCE MODULE

(Seminars in Authority Roles and the Curriculum Specialist in Vocational Education, and Leadership Styles and Functions of the Curriculum Specialist in Vocational Education; field work in Project Design and Administration, Operation of School Programs, Evaluation of School Programs, Educational Research and Development, and State, Regional, and Federal Program Supervision)

INSTALLATION GUIDE

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PREFACE

Who is a vocational education curriculum specialist? The answer to this question is not as simple as it might appear. A vocational education curriculum specialist is likely to work in many different capacities, including, but not limited to: instructor, department chairperson, dean of vocational-technical education, vocational supervisor, principal, state or local director of vocational education, and curriculum coordinator.

The specialist is, perhaps, more identifiable by his/her responsibilities, which include, but are not limited to:

- planning, organizing, actualizing, and controlling the work of an educational team performed to determine and achieve objectives.
- planning, organizing, and evaluating content and learning processes into sequential activities that facilitate the achievement of objectives.
- diagnosing present and projected training needs of business, industry, educational institutions, and the learner.
- knowing, comparing, and analyzing different theories of curriculum development, management, and evaluation and adapting them for use in vocational-technical education.

This teaching/learning module is part of a set of materials representing a comprehensive curriculum development project dealing with the training of vocational education curriculum specialists. The purpose of this two-year project was 1) to design, develop, and evaluate an advanced-level training program, with necessary instructional materials based on identified vocational education curriculum specialist competencies, and 2) to create an installation guide to assist instructors and administrators in the implementation process.

The curriculum presented here is, above all else, designed for flexible installation. These materials are not meant to be used only in the manner of an ordinary textbook. The materials can be used effectively by both instructor and student in a variety of educational environments, including independent study, team teaching, seminars, and workshops, as well as in more conventional classroom settings.

Dr. James A. Dunn
Principal Investigator and
presently Director,
Developmental Systems Group
American Institutes for Research

ACKNOWLEDGEMENTS

The Vocational Education Curriculum Specialist Project was a comprehensive development and evaluation effort involving the contribution of a large number of people: project staff, curriculum consultants, a national advisory panel, and a number of cooperating colleges and universities. This wide variety of valuable inputs makes it difficult to accurately credit ideas, techniques, suggestions, and contributions to their originators.

The members of the National Advisory Panel, listed below, were most helpful in their advice, suggestions, and criticisms.

Myron Blee	<i>Florida State Department of Education</i>
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Mary Ellis	<i>President, American Vocational Association</i>
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Ben Hirst	<i>Director, Consortium of the States, Atlanta, Georgia</i>
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Jerome Moss, Jr.	<i>University of Minnesota</i>
Frank Pratzner	<i>CVE, Ohio State University</i>
Rita Richey	<i>Wayne State University</i>
Bryl R. Shoemaker	<i>Ohio State Department of Education</i>
William Stevenson	<i>Oklahoma State Department of Education</i>

The project would not have been possible without the cooperation and commitment of the field test institutions listed below.

California State University, Long Beach
California Polytechnic State University, San Luis Obispo
Consortium of California State University and Colleges

- California State University, Sacramento
- California State University, San Diego
- California State University, San Francisco
- California State University, San Jose
- California State University, Los Angeles

Iowa State University
University of California Los Angeles
University of Northern Colorado

Overall responsibility for the direction and quality of the project rested with James A. Dunn, Principal Investigator. Project management, supervision, and coordination were under the direction of John E. Bowers, Project Director.

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Part I:

Organization and Administration

PART I

ORGANIZATION AND ADMINISTRATION

Guidelines

This study guide has five major sections. Each section contains useful information, suggestions, and/or activities that assist in the achievement of the competencies of a Vocational Education Curriculum Specialist. Each major section is briefly described below.

PART I: ORGANIZATION AND ADMINISTRATION

PART I contains an Overview and Rationale, Educational Goals and Performance Objectives, Recommended Learning Materials, and Suggested Reference Materials. This section will help the user answer the following questions:

- How is the module organized?
- What is the educational purpose of the module?
- What specifically should the user learn from this module?
- What are the specific competencies emphasized in this module?
- What learning materials are necessary?
- What related reference materials would be helpful?

PART II: CONTENT AND STUDY ACTIVITIES

Part II contains the content outline arranged by goals. The outline is a synthesis of information from many sources related to the major topics (goals and objectives) of the module. Study activities for each goal and its corresponding objectives follow each section of the content outline, allowing students to complete the exercises related to Goal 1 before going on to Goal 2.

PART III: GROUP AND CLASSROOM ACTIVITIES

The "Activities-Resources" column in the content outline contains references to classroom or group activities and discussion questions related to specific content in the outline. These activities and discussion questions

are located in PART III and are for optional use of either the instructor or the student. Both the classroom activities and discussion questions are accompanied by suggested responses for use as helpful examples only--they do not represent conclusive answers to the problems and issues addressed. Also contained in the "Activities-Resources" column are the reference numbers of the resources used to develop the content outline. These reference numbers correspond to the numbers of the Suggested Reference Materials in PART I.

PART IV: STUDENT SELF-CHECK

PART IV contains questions directly related to the goals and objectives of the module. The self-check may be used as a pre-test or as a post-test, or as a periodic self-check for students in determining their own progress throughout the module.

PART V: APPENDICES

Appendix A contains responses to the Study Activities from PART II, and Appendix B contains responses to the Student Self-Check. The responses provide immediate feedback to the user and allow the module to be used more effectively for individualized study. They have been included in the last part of the module as appendices to facilitate their removal should the user wish to use them at a later time rather than concurrently with the rest of the module.

Approximately 30 hours of out-of-class study will be necessary to complete this module.

Overview and Rationale

The purpose of this module is to provide the future curriculum specialist with the knowledge and skills to select or help others select the appropriate instructional strategy for any given vocational subject and any group of students. Vocational instruction is unique in the field of

education in that it is business and industry that establish the criteria of instruction. This leaves for vocational education the problem of how best to deliver the instruction--that is, how to select the best instructional strategy for a given situation. Because the views of educators often differ greatly, texts and individuals suggest many different ways to do this. This module provides guidelines and descriptions of practical instructional strategies that are workable in vocational education.

Vocational education must provide learning experiences at a time when numerous occupations the student may choose to study may not be available when he graduates. Jobs change with time. Technology changes. Keeping instruction relevant, therefore, is a constant concern of the curriculum specialist.

The first part of this module describes the characteristics of a variety of instructional strategies for organizing vocational education content to ensure that they meet program objectives as effectively and efficiently as possible. It discusses different uses of the cluster approach, unit shops, work-study programs, and cooperative education programs.

One of the most frequent questions a curriculum specialist must address is, "What are the general characteristics of a good curriculum?" The second part of the module, therefore, describes a number of standards upon which curriculum selection decisions or judgments may be based. These standards relate to the validation of curriculum content, the relevance, and the depth and breadth of curriculum content, and the distinctive features of curriculum materials.

Certain aspects of secondary vocational education, such as the nature of the student population and institutional policies and regulations, differ from those of postsecondary vocational education. The curriculum specialist, therefore, must be able to identify important differences among educational levels in order to select appropriate curriculum content

and experiences for each level. The section related to Goal 6.3 in this module describes some of the more significant characteristics of secondary and postsecondary vocational education curriculum.

Curriculum does not exist in a vacuum. Curriculum, by its own definition, implies the need for structure, a vehicle through which it can be delivered to students. In most cases, curriculum must fit into an established school structure rather than school structure be shaped to accommodate curriculum. For this reason, the curriculum specialist must be aware of the formal and informal aspects of school organization which have an impact on curriculum. The last section of this module describes some of the important aspects of school organization and illustrates some innovative curriculum approaches that have been successfully implemented in existing organizations.

Goals and Objectives

Upon completion of this module, the student will be able to achieve the following goals and objectives:

GOAL 6.1: DESCRIBE THE CHARACTERISTICS OF A VARIETY OF INSTRUCTIONAL STRATEGIES FOR ORGANIZING VOCATIONAL EDUCATION PROGRAMS.

Objective 6.11 Describe the characteristics of the clusters, families, or common elements of occupations approach to vocational education.

Objective 6.12 Describe the characteristics of the pyramid cluster model, the vertical-hierarchical cluster model, and the functions of industry model in vocational education.

Objective 6.13 Describe the advantages of the pyramid cluster model, the vertical-hierarchical cluster model, and the functions of industry cluster model.

Objective 6.14 Identify five or more concerns associated with the development or operation of a cluster program in vocational education.

Objective 6.15 Develop guidelines for handling at least five different concerns in the development or operation of a cluster program in vocational education.

Objective 6.16 Describe the characteristics of the unit shop area of specialization approach to vocational education.

Objective 6.17 Describe the characteristics of the work-study approach to organizing vocational education programs.

Objective 6.18 Describe the characteristics of the cooperative approach to organizing vocational education programs.

GOAL 6.2: EXPLAIN AND USE SPECIFIC STANDARDS FOR SELECTING CURRICULUM EXPERIENCES FOR VOCATIONAL EDUCATION PROGRAMS.

- Objective 6.21 Identify and use standards for validating curriculum content.
- Objective 6.22 Identify and use standards for determining the relevance of curriculum content for vocational education programs.
- Objective 6.23 Identify and use standards for determining the breadth and depth of vocational education curriculum.
- Objective 6.24 Identify and compare designations of curriculum materials.

GOAL 6.3: COMPARE AND CONTRAST CURRICULUM SELECTION FOR DIFFERENT EDUCATIONAL LEVELS.

- Objective 6.31 Identify and describe the unique characteristics of a vocational curriculum at the secondary level.
- Objective 6.32 Identify and describe the unique characteristics of a vocational curriculum at the post-secondary level.

GOAL 6.4: ANALYZE AND DESCRIBE THE RELATIONSHIP OF CURRICULUM DESIGN TO THE ORGANIZATIONAL CONDITIONS UNDER WHICH IT FUNCTIONS.

- Objective 6.41 Recognize the formal and informal aspects of organization which influence curriculum selection.
- Objective 6.42 Identify innovative curriculum characteristics that have implications for organization.

Recommended Materials

1. Maley, Donald. Cluster Concept in Vocational Education. Chicago: American Technical Society, 1975.
2. Strong, Merle E., ed. Developing the Nation's Work Force. Fifth Yearbook of the American Vocational Association. Washington, D.C.: AVA, 1975.
3. Wenrich, Ralph C., and Wenrich, J. William. Leadership in Administration of Vocational and Technical Education. Columbus, Ohio: Charles E. Merrill Publishing Co., 1974.

Suggested References

1. American Vocational Association. The Individual and His Education. Second Yearbook of the American Vocational Association. Washington, D.C.: AVA, 1972.
2. American Vocational Association. Vocational-Technical Terminology. Washington, D.C.: AVA, 1971.
3. California State Department of Education. Guide for Industrial Arts Education in California. Sacramento: State of California, 1958.
4. Cochran, Leslie H. Innovative Programs in Industrial Education. Bloomington, Illinois: McKnight & McKnight Publishing Co., 1970.
5. The Cooperative Education Association and The Cooperative Education Division of the American Society for Engineering Education. Guidelines For Colleges Considering the Initiation of Cooperative Programs. Philadelphia: Drexel University.
6. Gillie, Angelo C., Sr. Principles of Post-Secondary Vocational Education. Columbus, Ohio: Charles E. Merrill Publishing Co., 1973.
7. Knirk, Frederick G., and Childs, John W., eds. Instructional Technology: A Book of Readings. New York: Holt, Rinehart and Winston, 1968.

8. Krebs, Alfred H., ed. The Individual and His Education. Second Yearbook of the American Vocational Association. Washington D.C.: AVA, 1972.
9. Law, Gordon F. Cooperative Education: Handbook for Teacher Coordinators. Chicago: American Technical Society, 1970.
10. Maley, Donald. Cluster Concept in Vocational Education. Chicago: American Technical Society, 1975.
11. Mason, Ralph E., and Haines, Peter G. Cooperative Occupational Education and Work Experience in the Curriculum. Canville, Illinois: The Interstate Printers and Publishers, 1965.
12. National School Public Relations Association. Vocational Education: Innovations Revolutionize Career Training.
13. San Mateo Union High School District. Career Development Programs. San Mateo, California: San Mateo Union School District, 1972.
14. Strong, Merle E., ed. Developing the Nation's Work Force. Fifth Yearbook of the American Vocational Association. Washington, D.C.: AVA, 1975.
15. Taba, Hilda. Curriculum Development: Theory and Practice. New York: Harcourt, Brace, and World, Inc., 1962.
16. Wenrich, Ralph C., and Wenrich, J. William. Leadership in Administration of Vocational and Technical Education. Columbus, Ohio: Charles E. Merrill Publishing Co., 1974.
17. Wilson, James W. "On the Nature of Cooperative Education." Journal of Cooperative Education, (May 1970).

Part II:

Content and Study Activities

PART II

CONTENT AND STUDY ACTIVITIES

Goal 6.1

Content Outline	Activities-Resources
Goal 6.1: Describe the Characteristics of a Variety of Instructional Strategies for Organizing Vocational Education Programs. A. <u>Introduction</u> 1. One of the most important characteristics of vocational education programs is that they are often organized so that students can have actual or simulated work experience. Work-study and cooperative programs provide students with actual work experience as part of their individualized study program. When actual work experience is not feasible, simulated work experience is often made possible by providing in the instructional setting roleplaying activities. 2. In this module the basic requirements and characteristics of such programs will be discussed, beginning with a general description of the strategies or concepts used for organizing curriculum in vocational education.	

Content Outline (continued)

B. Characteristics of the Clusters, Families, or Common Elements of Occupations Approach to Vocational Education

1. The cluster concept is described in detail in the recommended text for this module, Cluster Concept in Vocational Education by Donald Maley. Maley defines the cluster concept as follows: "The cluster concept (as the central theme of this text) is a form of vocational education which prepares the individual to enter into gainful employment in a number of occupations which have sufficient commonalities in human requirements and kinds of work to permit a high degree of mobility within, as well as job entry into, the occupations associated with the cluster " (10).
2. Maley also gives the following characteristics of cluster programs: Multiple occupational preparation. The cluster idea is generated around the goal of preparing persons for employment in a number of different occupations.

These occupations are generally related with respect to skills, human requirements, industries using such preparation, and cross-occupational mobility opportunities. The central thrust is directed toward enabling persons to enter into several different occupations as opposed to the traditional emphasis on single in-depth occupational preparation.

(10) Cluster Concept in Vocational Education, p. 6.

Content Outline (continued)

Job entry preparation. The cluster has as its focus the enabling of the individual to gain entrance into employment and not (at the cluster stage) to develop in-depth trade or occupational competency. This is accomplished by having the individual develop job-entry capabilities in a number of related occupations.

Commonalities of content. The development of an occupational cluster for vocational education purposes is based upon an analysis of content (related information) common to a number of otherwise related occupations.

Commonalities of skills and worker performance. The occupations in a cluster normally contain a variety of fundamental mental and manual skills appropriate to each.

Prelude to further training. The education and training experienced by the student represents a base level of preparation with the hope for more in-depth or specialized training to follow in the process of continuous education in either the formal or the informal setting (10).

(10) Cluster Concept
in Vocational
Education, p. 5.

Note the emphasis on prelude to further training. The importance of this concept cannot be overlooked when planning and organizing vocational education. This emphasis, however, does not necessarily imply further institu-

Content Outline (continued)

tional or school training. Additional training in most cases is on the job.*

* See Discussion Question A in Part III.

C. Types of Clusters: Pyramid, Vertical-Hierarchical, Functions of Industry

As Maley points out, there are three basic cluster programs: the pyramid cluster, the vertical-hierarchical cluster, and the functions of industry cluster.

1. The pyramid cluster.

a. Characteristics of the pyramid cluster include the following:

- (1) It permits a systematic and sequential exploratory experience for the student in his or her selection of a specific occupation to pursue.
- (2) The pyramidal structure permits a student the opportunity to gradually specialize in an area or occupation with each successive year.
- (3) The nature of the pyramidal sequence provides for a certain amount of multi-occupational or multi-area understanding and a certain level of cross-occupational involvement (10).

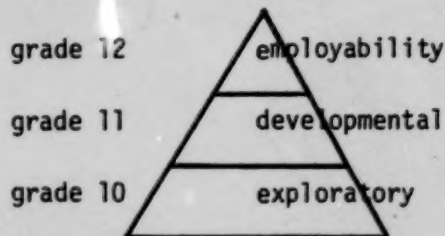
b. There are three phases in a pyramid cluster. The first phase, representing the bottom third of a pyramid, is exploratory. The second phase, representing the middle part of a pyramid, is developmental. The third phase, representing the top third of a pyramid, is employability. As Maley says,

(10) Cluster Concept in Vocational Education, pp. 49-50.

Content Outline (continued)

"Stage one (grade 10) has a strong emphasis on exploration and a limited amount of job entry skill and information development. Ideally, the occupations represented at this level should center around a broad family of occupations. This broad family might consist of occupations in such fields as construction, metal-forming and fabrication, human services, graphic communications, and mechanical maintenance and repair as well as many more.

Note: it is recommended that you draw a triangle as follows on the blackboard.



The second stage (grade 11) of the pyramidal structure for clustering has similar functions to the first stage, except that there is a major shift in emphasis among the three functions of "exploratory", "developmental", and "employability".

The exploratory function is narrowed from four (occupational or "content") areas of concentration to two. The developmental function of strengthening one's skills

Content Outline (continued)

and information as they contribute to an ultimate selection and performance in an occupation is given greater emphasis. Finally, the employability factor, which relates to the range and quality of job entry skills, is increased in this stage but with an emphasis on only two occupations or "content" fields.

The third phase of the pyramidal cluster organization (grade 12) has the student selecting one of the two areas from phase two. He or she spends this third year in the program concentrating in the single occupation or field of study.

This third stage again sees an alteration in the expectations or outcomes of the three functions as discussed in phases one and two. The exploratory function is further diminished, and there is a strengthened or increased emphasis on the developmental and the employment aspects of the program " (10).

(10) Cluster Concept
in Vocational
Education, pp.
50-51.

2. Vertical-hierarchical cluster.

- a. Another cluster approach is the vertical-hierarchical cluster which is normally a three-year sequence at the senior high-school level. This system is based on the idea that within a single occupational category there are a number of different levels of job classifications from semi-

Content Outline (continued)

skilled, to skilled to semi-professional to professional. As one moves up the structure, there are different job classifications with unique skill or informational requirements. These skills and knowledge requirements are built on simpler skills and knowledge and thus form a hierarchy of performance requirements. The curriculum is then logically organized around this hierarchy.

- b. Maley states that the advantages of the vertical-hierarchical model are as follows:

- (1) Each student has the opportunity to move as high (or deep) into the levels of complexity or difficulty as his interests or abilities will permit. The whole concept of individual differences with regard to potential attainment within an occupational hierarchy is a reality in this type of program.
- (2) Such a cluster structure also enables students with modest or low ability to find their place in a program as well as function optimally in an area of interest to the individual.
- (3) The vertical cluster concept provides a diversity of levels of opportunity for success for a class that may have many such levels of ability, aspiration, and potential represented in the student body.

Content Outline (continued)

- (4) This cluster form achieves its diversity through the versatility of the teacher and the structure of the occupational analysis that led up to the formulation of the arrangement.
 - (5) A single unit laboratory is all that is required for this form of clustering since the exploratory function is in-depth or to the extent of one's capability rather than across occupational lines (10).
3. The functions of industry model. *
- a. The functions of industry model has many advocates and is exemplified by the Maryland cluster program. The original concepts of this model were first developed at Stout State College in Wisconsin. Its approach is similar to the vertical-hierarchical approach in that it analyzes the skills and knowledge required in different occupations, sequences them in a hierarchy or order of learning difficulty, and organizes the content around this hierarchy.
 - b. The main distinction of the functions of industry approach is that it includes more managerial skills and puts less emphasis on production line experience. Since it is difficult to provide actual managerial experience, this approach simulates managerial activities. It attempts to teach the skills needed to meet challenges that

(10) Cluster Concept in Vocational Education, p. 56.

* See Discussion Question B in Part III.

Content Outline (continued)

are part of getting to the top of the "ladder of success."

- c. One disadvantage of this approach is that students learn in class higher-level skills that they will perhaps not have an opportunity to apply on the job for several years. In the meantime, many of the acquired skills and knowledge may be forgotten. *

* See Discussion Question C in Part III.

D. Evaluating the Cluster Models

All cluster models discussed should be evaluated on the basis of their appropriateness for the particular settings in the school districts for which they are planned. Three major areas of evaluation should be considered: first, appropriateness for the school and community; second, overall quality; and third, effectiveness of the program management. Maley lists the following questions as ones to consider when looking at each of these three evaluation areas.

1. Appropriateness for school and community

- a. Does the particular cluster program provide the learner with the opportunity to develop skills and understandings, as well as enable the student to feel that he or she is accomplishing something?
- b. Does the particular cluster program being evaluated have a viable base of occupational components that contribute to a strong employment potential for persons who pursue it?

Content Outline (continued)

- c. Does the employing community have need for persons who have successfully completed such a cluster program aimed at "job entry" or "second level" skills?
- d. Has the particular cluster program been able to attract students because of its inherent value to them?
- e. Does the particular cluster program make a contribution to other clusters, other forms of vocational education, or to other aspects of the school program? (10)

2. Quality

- a. Do the programs enable the individual student to develop the skills and understandings associated with the cluster?
- b. Does the instructional program take into account the wide and diverse backgrounds of students in an attempt to reach each individual in an effective manner?
- c. Does the program extend into those qualities of personal development which aim for the effectiveness of the individual on the job? (These would extend beyond the skills and understandings directly associated with the occupational components.)
- d. Does the program deal with the depth and scope of skills and understandings that contribute to the effectiveness of the individual in carrying on the requirements of the jobs for which he or she is being prepared to enter?

(10) Cluster Concept
in Vocational
Education, pp.
196-197.

Content Outline (continued)

- e. Does the program maximize the effective use of the student's time in the pursuit of the skills, understandings, and personal development associated with the cluster components?
- f. Do the products of the program have a high level of performance out on the job in keeping with the goals of the program?
- g. Do the students display a high level of active involvement in the learning processes associated with the program?
- h. Do the instructional practices carried out in the program make effective use of the available technology and the most appropriate instructional practices known?
- i. Is there a perceptible contribution to the growth and development of the individual?
- j. What do the students, counselors, parents, administrators, and the community have to say about the effectiveness of the program? (10) Cluster Concept in Vocational Education, pp. 197-198.

3. Effectiveness of Management

- a. Does the management operation facilitate and promote growth and development on the part of the faculty?
- b. Does the management operation tend to broaden and enlarge opportunities for student and faculty growth?
- c. Does the management function support the central mission of the program, or is it management for the furtherance of management?

Content Outline (continued)

- d. Does the management operation seek its direction from the goals and functions of the program?
- e. Does the management operation provide the kind and quality of environment suited to the cluster program?
- f. Does the management operation promote the growth and development of its personnel so that they may better serve the faculty and staff in the discharge of their duties?
- g. Does the management operation facilitate change and program improvement without dictating the change?
- h. Does the management make effective and optimal use of the resources at its disposal?
- i. Does the management carry out an effective program of community relations aimed at the maximum benefit to the program and its function?
- j. Does the management operation in the cluster concept program provide for the flexibility and adaptability so vital in a world characterized by unprecedented change? (10)

(10) Cluster Concept
in Vocational
Education, p. 199.

E. The Unit Shop or Area of Specialization

- 1. The unit shop is characterized by its emphasis on a single subject or job rather than on a cluster of related jobs or subjects. The unit shop (or area of specialization in business education and other vocational fields) is the traditional method of organizing curriculum in vocational education.

Content Outline (continued)

2. One of the main reasons for the unit shop is its ability to provide in-depth study of one particular job. It is not greatly concerned with exploratory education as is the cluster approach. The instructor, concerned with a narrower range of skills and knowledge, can provide in-depth instruction--because of the unit shop's more restricted objectives the teacher can specialize.
3. Most community college and area or regional vocational education programs are organized by unit or area of specialization. This strategy makes sense since students at this higher level of instruction have already made career decisions; they do not need exploratory opportunities but probably do need in-depth instruction in a particular field so they can find employment upon graduation. The unit or area of specialization is a functional continuation of the rationale of "further training" that supports the cluster concept. *

* Students should complete Classroom Activity 1. See Part III.

F. Work-Study and Cooperative Education Programs

1. Although job experience as an adjunct to school instruction is not a recent innovation, it has taken on increased importance in the last decade. Relevance in education is the keynote of the day, and off-campus job experience is viewed as a means toward this relevance. Job experience provides a transition between the world of the school and the world of work.

Content Outline (continued)

2. Two major types of job experience programs will be discussed in this module: work-study and cooperative education. Both programs have the same goals, namely to:

- a. help students explore occupations, experiencing their demands and testing their interests;
- b. provide youth with opportunities to earn money to help with school or family expenses;
- c. motivate potential dropouts to remain in school at least to the extent of getting further general education;
- d. provide experience at working so as to develop general personal characteristics (11).

(11) Cooperative Occupational Education and Work Experience in the Curriculum, p. 51.

3. Despite having the same goals, however, there are important differences between the programs. The major difference concerns the basic purpose of the job experience.

- a. In work-study programs the purpose is general occupational education. School instruction is only generally related to the student's job--that is, little effort is made to teach topics needed for that job. Also, there is a minimum of school supervision on the job, and the job may or may not relate to the student's career choice or academic studies (11).
- b. Cooperative education, on the other hand, is correlated to the student's school studies. The job experience is part of and directly re-

(11) Cooperative Occupational Education and Work Experience in the Curriculum, p. 52.

Content Outline (continued)

lated to a particular course of study. Individualized instruction in the classroom expands, explains, or relates the job experience to the field of study. Also, there is a great deal of school supervision on a continuing basis.

- c. Mason and Haines distinguish between work-study programs and cooperative programs as follows:

General Work Experience

- (1) Usually has as its primary goal the improvement of general education, the gaining of exploratory occupational experiences, or the holding of the student in school.
- (2) Based on student's general education needs or need for employment to remain in school.
- (3) Student hired as a "producing worker" or as an observer.
- (4) Often utilizes any available part-time job.
- (5) Usually relies on the job to provide trainee experiences; the in-school class (not always used) is not usually directly related to the job.
- (6) Job rotation is usually coincidental rather than part of a planned program.

Note: It is recommended that you discuss those points you feel are most critical in vocational education.

Content Outline (continued)

Cooperative Occupational Education

- (1) Has as its primary goal the development of occupational competency.
- (2) Based on the student's stated career objectives.
- (3) Student hired as a "learning worker."
- (4) Places the trainee in a job commensurate with his/her ability and his/her career objectives.
- (5) Provides classroom activities directly related to job activities and trainee's occupational goals.
- (6) Provides the trainee with a variety of job rotation through different departments of the firm.*

* See Discussion Questions D, E, and F in Part III.

4. Components of cooperative education programs.

As has been emphasized, the main advantage of cooperative programs is the close relationship of the job experience to classroom learning. In order for this close relationship to exist, special curriculum planning must be part of the program. All cooperative education programs should include certain basic components.

These components are:

- a. a general job description that is the subject of the job experience;
- b. a career objective that is related to and, if possible, an outcome of the job experience;

Content Outline (continued)

- c. a list of entry-level skills that must be met before the student can take part in the job experience;
- d. a list of learning objectives or outcomes that will be studied on the job or during the related class but will be practiced on the job; these objectives are the most important component as they give the student the direction necessary to turn the job experience into a learning experience;
- e. a list of references the student should consult in order to meet the learning objectives;
- f. a school supervisor to whom the student can go for help on the job and in the classroom;
- g. test items or evaluation criteria to which the student can refer to determine if he or she is learning the content required to meet the learning objectives. These test items, or ones that cover the same or similar content, will also be used to assess the final learning that has occurred on the job and in the class.

(Some instructors prefer to have two lists of objectives; those to be learned and demonstrated on the job, and those to be learned and demonstrated in the classroom. You may want to discuss the pros and cons of both types with your class.) *

* Students should complete Classroom Activity 2 which relates to Objective 6.18.

G. Study Activities

Based on your reading of the content outline and any additional references as suggested, complete the following activities.

1. Define the cluster concept program as used in vocational education.
2. List three characteristics of the cluster concept.
3. Describe the characteristics of the pyramidal approach to clustering vocational education.
4. Describe the advantages and the disadvantages of the pyramidal approach to clustering vocational education.
5. Describe the characteristics of the vertical-hierarchical cluster model as used in vocational education.
6. Describe five advantages and four disadvantages of the vertical-hierarchical cluster model used in vocational education.
7. Describe the characteristics of the functions of industry cluster model. (The Maryland cluster model is an example of the functions of industry model.)
8. Describe the advantages and the disadvantages of the functions of industry cluster model.
9. List five or more concerns associated with the development or operation of a cluster program in vocational education.
10. Develop brief guidelines for handling each of the five concerns you listed in the previous question.
11. Describe the characteristics of the unit shop or area of specialization approach to vocational education.

12. List the advantages and disadvantages of using the unit shop or area of specialization approach to vocational education.
13. Define the term work-study as it is used in vocational education.
14. What is the purpose of providing students with the opportunity to take part in a work-study program?
15. Describe the important characteristics of a work-study program.
16. What disadvantages or operational problems do you see or have you encountered in work-study programs?
17. One of the major criticisms of work-study programs is that students do not receive classroom instruction expanding on their work experience. If you were trying to defend a work-study program and this criticism was presented, how would you respond?
18. Define the term cooperative education as it is used in vocational education.
19. What is the purpose of providing students with the opportunity to take part in a cooperative education experience?
20. Describe the important characteristics of a cooperative education program.
21. Describe the disadvantages or operational problems that you see or have encountered in cooperative education programs.
22. Describe the advantages for students and schools associated with cooperative education programs.

(See Appendix A for possible answers.)

Goal 6.2

Content Outline	Activities-Resources
Goal 6.2: Explain and Use Specific Standards for Selecting Curriculum Experiences for Vocational Education Programs. A. <u>Validating Curriculum Content*</u> For the purposes of this module, curriculum content refers to both materials and learning experiences. 1. Content selection has always been a problem in curriculum development. Occupations change, new occupations emerge, knowledge continues to expand, techniques and methods change--these factors all have a direct bearing on content selection for vocational education curriculum. Only content that is valid in light of all pertinent considerations should find its way into the curriculum (15).* 2. Vocational education curriculum is valid to to the extent that it meets the occupational competency needs of individuals and society. For example: a. agriculture education concentrates today more on agribusiness areas because more jobs are available in those areas,	* Students should complete Classroom Activity 3 which relates to this goal. (15) <u>Curriculum Development: Theory and Practice.</u> * See Discussion Question G in Part III.

Content Outline (continued)

- including occupations in horticulture, nursery enterprises, and small animal husbandry.
- b. Business education is still preparing secretaries, bookkeepers, and typists to meet employment demands, but it is also preparing people for new occupations in data processing and computer science (14).
3. Vocational education curriculum is valid to the extent that it reflects contemporary scientific or technical knowledge and methods. Equipment and concepts should be up to date.
4. Valid curriculum content focuses attention on fundamental skills and knowledge. It deals first with what students must know, secondly, with what students should know, and thirdly, with what is nice to know.*
- a. If one understands the fundamental ideas of a subject, it becomes more comprehensible.*
- b. If fundamental ideas and principles are grasped, the basis for transfer of knowledge is enhanced.
- c. If the structure of a field is grasped the gap between advanced and elementary knowledge is narrowed (4).
5. Curriculum content must always consider the time available for instruction. It should be obvious that a curriculum with 1200 hours of instruction will differ from one with 2000 hours.

(14) Developing the Nation's Work Force.

* Students should complete Classroom Activity 4 which relates to this goal.

* See Discussion Question H in Part III.

(4) Innovative Programs in Industrial Education.

Content Outline (continued)

B. The Relevancy of Curriculum Content

Making education relevant has always been a major aim of vocational education. Content that is relevant to the occupational and social realities of the nation is important for vocational education curriculum selection.

1. Involvement and cooperation among business, industry, and education enhance the relevancy of vocational education curricula. The more refined this involvement becomes, the more significant the curriculum.
2. Cooperation among vocational training institutions increases the consistency and appropriateness of curriculum content.
3. Utilization of more accurate procedures for estimating manpower needs will add to the relevancy of curriculum offerings in vocational education.
4. Joint participation in the development of curricula by vocational administrators, teachers, counselors, students, business, and organized labor will result in more relevant content (14).*

(14) Developing the Nation's Work Force.

* Students should complete Classroom Activity 5 which relates to this topic. Also see Discussion Question I in Part III.

C. Breadth and Depth of Curriculum Content*

Although one purpose of vocational education is to teach job skills, another is to provide general occupational competency. For this latter purpose, a vocational curriculum must have an appropriate balance of breadth and depth.

* Students should complete Classroom Activity 6.

Content Outline (continued)

1. One way to achieve a balance between specific and general knowledge is to select for study concepts and skills with the greatest applicability and the greatest likelihood of transfer and then to spend adequate time on each.
2. Curriculum for a vocational education program should provide for a wide range of objectives.

An effective curriculum ensures the acquisition of significant new knowledge and applications, and also the development of increasingly effective ways of thinking, desirable attitudes and interests, and appropriate habits and skills.*

3. Another criterion for curriculum selection related to the breadth and depth of content is the appropriateness of the materials or experiences to the needs and interests of the students. Curriculum content should be related as closely as possible to student interests (15). The job of the curriculum specialist or teacher is to discover those things that may interest the student, to enlarge on them, and then find or develop appropriate materials or experiences by which to connect them with what must be learned.

D. Curriculum Designations

Curriculum designations specify the elements that make up written or visual instructional materials. Criteria should be established to evaluate the comprehensiveness of the materials.

* See Discussion Question J in Part III.

(15) Curriculum Development: Theory and Practice.

Content Outline (continued)

1. The following curriculum elements were found in materials rated most valuable and most usable by vocational educators: *
 - a. instructor/teacher guide
 - b. teacher's material and student's material
 - c. student manual (with direction for teacher use)
 - d. self-study guide for students
 - e. self-contained materials for students
 - f. theory approach/application approach
 - g. student objectives and teacher objectives
2. Also rated very highly by vocational educators were materials that included information about the following items:
 - a. facilities needed
 - b. equipment and supplies (cost and source)
 - c. suggested resources for teaching content
 - d. job requirements
 - e. occupational analysis
 - f. employment possibilities
 - g. curriculum outlines
 - h. scientific or technical societies or associations
 - i. student selection and services
 - j. guidelines for using materials and equipment
 - k. suggestions for in-service education of teachers
3. The curriculum selection process can be augmented by using some or all of the above criteria on a rating format.*

* These designations were rated by the Ten State Curriculum Network.

* Students should complete Classroom Activity 7 which relates to Objective 6.24. See Part III.

E. Study Activities

Based on your reading of the content outline and any additional references as suggested, complete the following activities.

1. What is one of the first criteria mentioned for selecting curriculum experiences?
2. Provide an example illustrating the use of this selection criterion.
3. Why is the selection of curriculum content a problem? Give at least two reasons.
4. What are the overriding goals that vocational education curriculum must seek to achieve?
5. Describe the concerns, situations, or new content areas that are currently seen as important criteria in selecting curriculum content for the traditional occupational service areas.
 - a. occupational home economics:
 - b. agriculture:
 - c. distributive education:
 - d. trade and industry:
6. What are three ways of checking validity prior to selecting curriculum in vocational education?
7. What is a second criterion for selecting curriculum experiences?
8. Provide an example that illustrates the meaning of this criterion.
9. What implications does the problem of "overeducation" hold for general education and vocational education?
 - a. general education:
 - b. vocational education:

10. In what way might vocational education best contribute to maximizing relevancy in training and work?
11. What is meant by the term breadth in regard to curriculum content? Give an example.
12. What is meant by the term depth in regard to curriculum content? Give an example.
13. What curricular concerns are included under "breadth and depth"?
14. How would you interpret the term "prescribed curriculum"? What example can you give to illustrate your point?
15. Answer the following statements as "true" or "false."
 - _____ a. Individualizing curriculum requires special programmed materials.
 - _____ b. Individualizing curriculum experiences is more a function of the instructor than the materials, content, or setting.
 - _____ c. Cooperative education is not conducive to individualized learning.
 - _____ d. Individualizing instruction requires more preparation time than group instruction.
16. Devise a rating sheet to use for selecting curriculum materials.
17. Using your "rating sheet for selecting curriculum materials," rate the materials used in this course of study.
18. Bring an example of your "rating sheet" to class. Also collect and bring to class a set of curriculum materials you are currently using or expecting to use in your own classes. (Check with your instructor for the exact date of this activity.)

Goal 6.3

Content Outline	Activities-Resources
Goal 6.3: Compare and Contrast Curriculum Selection for Different Educational Levels. A. <u>Curriculum Selection Criteria at the Secondary Level</u> Some vocational education programs are alike, many are different; some secondary programs closely resemble those in area schools or in community colleges, or vice versa. The number and diversity of vocational education programs makes it difficult and undesirable to try to establish any universal criteria for curriculum selection. The general criteria described in the preceding section of this module are applicable to any curriculum selection process at any level. However, secondary vocational education has some characteristics that distinguish it from postsecondary vocational education. These distinctions should be considered when selecting curriculum for secondary vocational students. 1. Secondary programs should be considered long-term programs emphasizing occupations with both career ladder and career lattice opportunities.* 2. Secondary vocational education should be viewed as a preventive program. Prevention is far cheaper than remediation. Vocational education should strive to achieve the highest possible enrollment in the greatest	* See Discussion Question K in Part III.

Content Outline (continued)

number of programs concerning preparation for earning a living (14).*

3. A promising supplement and extension to secondary vocational education programs since 1963 has been the development of the area vocational school, a central facility supported by and servicing a number of local school systems. The area center can enhance and increase the number and kinds of programs available to secondary school students. In schools or locations where vocational programs are limited or nonexistent, the area center can be the institution for providing vocational education.
4. The area vocational school is particularly suited for offering short-term or long-term programs tailor-made for specific industries. One school of thought proposes that area schools become strictly regional in scope (14).
5. Facilities and materials for secondary programs are changing and improving. A greater variety of materials and experiences are available, including individualized programs with computer assistance.
6. Cooperative education is a small but very important part of secondary vocational curriculum. Careful selection of work stations and work station supervisors is vital. The cooperative education experience loses its greatest value if students do not move through all the stages of learning that a given work station can provide and acquire sufficient skills for entry-level employment. Selection of appropriate classroom materials and experiences to

(14) Developing the Nation's Work Force.

* See Discussion Question L in Part III.

(14) Developing the Nation's Work Force.

Content Outline (continued)

support the work station curricula is also important (14).

7. Placement is an integral aspect of secondary vocational programs. It is an important consideration during curriculum selection because it is both a goal and a determinant of program offerings. When the employment community lacks respect for instructional content, placement becomes a real problem (14).

8. Youth organizations have become a major part of secondary vocational education. The curriculum of such clubs is mainly determined by the students themselves, but the organizations focus upon leadership development. The objectives of youth organizations are to give vocational students "a sense of belonging, a sharing of common purposes, and, perhaps most important, an identification of their learning experiences with other aspects of their life" (14).*

(14) Developing the Nation's Work Force.

* See Discussion Question M in Part III.

B. Curriculum Selection Criteria at the Postsecondary Level

The most significant improvement that might be made in curriculum selection for all levels of vocational education is to design procedures that assure more coordination, communication, and articulation of course offerings across all levels. The largest postsecondary vocational training institution is the community college. Like secondary vocational education, the community college has certain distinguishing characteristics which have

Content Outline (continued)

definite implications for vocational curriculum selection.*

1. The community college is beginning to show its ability to serve as the "all purpose" institution for achieving the newly defined national goal of providing postsecondary education for all who are interested in and can benefit from it. One of the most visible characteristics of the community college, therefore, is the diversity of the student body. There is a widespread representation of all age levels, socioeconomic backgrounds, and educational qualifications (14). This human variability demands curriculum alternatives.*
2. The postsecondary occupational program in community colleges is becoming increasingly concerned with program offerings that will help adults maintain their employment status and/or progress in their occupations.
3. The community college is also concerned with offering programs that:
 - a. meet the needs of the high school graduate;
 - b. meet the needs of adults unemployed because of layoffs, production cutbacks, or obsolescent skills;
 - c. meet the needs of the high school dropout;
 - d. meet the needs of the housewife and the aged (14).
4. The community college is also called upon to provide short-term training for adults needed to fill immediate job market demands.

* Students should begin Classroom Activity 8 at this point.

(14) Developing the Nation's Work Force.

* See Discussion Question N in Part III.

(14) Developing the Nation's Work Force.

Content Outline (continued)

5. Cooperative education is becoming a more important part of the curriculum, and a mandatory part of the college experience when:
 - a. the student's off-campus experience is closely related to his field of study and individual interests;
 - b. employment is regular, continuing, and an essential element in the educational process; and
 - c. an established period of employment and minimum standard of performance is required for a degree or certificate.

Ideally, the work experience increases in difficulty and responsibility as the student progresses in the program (14).

(14) Developing the
Nation's Work
Force.

6. Cooperative education at the community college level takes various forms and may utilize a variety of delivery systems:
 - a. alternative semester: two students share a full-time job (full-time work station) on a year-round basis.
 - b. parallel plan: students hold part-time afternoon, evening, or swing shift jobs with appropriate community college class loads.
 - c. extended day or evening college for new careers: special arrangements are made for college studies related to full-time employment and new career goals of students (14).
7. Delivery of the postsecondary curriculum can be manipulated more easily than that at the secondary level.

Content Outline (continued)

- a. Some community college programs are deliberately placed in economically depressed areas and given the responsibility of serving the needs of that particular community.
- b. More and more programs are taking place in churches, libraries, and unused local classrooms, and even on TV. These non-school centers are attempts to reach the population most in need of training.
- c. Mobile units are becoming more popular, particularly for career counseling and information dissemination purposes.
- d. More community colleges are designing programs to be offered in penal institutions.

C. Study Activities

Based on your reading of the content outline and any additional references as suggested, complete the following activities.

1. In your opinion, why should high school programs be designed as long-term programs?
2. Why is it necessary to offer programs at the secondary level which assure student entrance into a job, training, or educational institution?
3. Why should curriculum specialists view secondary vocational programs as "preventive" in nature?
4. Describe the area vocational school's significance to secondary level vocational education.
5. During the process of selecting curriculum for secondary programs, why is it necessary to consider the area vocational school or vice versa?
6. List three characteristics of secondary vocational education curricula that should be considered for secondary curriculum selection or design.
7. Suppose you were responsible for selecting curriculum for a new Distributive Education program in a new secondary school. What general features or curriculum characteristics would you be concerned about?
8. In large districts curriculum selection should include coordination among all vocational training institutions. Curriculum gaps and redundant programs can both be avoided through coordinated efforts. Agree or disagree with that statement. Support your answer.

9. What are the most visible characteristics of the community college that have implications for curriculum selection?
10. Are community colleges the only postsecondary education institutions? Explain your answer.
11. With the assistance of others in your class, prepare a description of a community college curriculum in your area and compare it to the characteristics and examples presented in this module.

(Note: This activity is associated with Classroom Activity 8 and should be organized during class time.)

Goal 6.4

Content Outline	Activities-Resources
Goal 6.4: Analyze and Describe the Relationship of Curriculum Design to the Organizational Conditions Under Which It Functions. A. <u>Formal Aspects of Organization</u> School organization is the structure through which desired educational outcomes can be achieved. It is the vehicle through which the curriculum is delivered to students. Organization is an important administrative function because the administration has responsibility for the conduct, operation, control, and management of the school enterprise (16). 1. The formal organization is the official organization, generally designed by those in authority. It consists of the roles and relationships of the persons in the organization as prescribed by management. Formal organization affects curriculum selection in the following ways: a. It dictates who shall be involved in curriculum development, design, and/or selection. b. It prescribes what curriculum will be selected or designed. 2. Schools have typically been organized according to the "bureaucracy model," with the following characteristics:	(16) <u>Leadership in Administration of Vocational and Technical Education.</u>

Content Outline (continued)

- | | |
|---|--|
| <ul style="list-style-type: none">a. <u>Emphasis on form</u>--fixed and official jurisdictional areas, governed by rules, regulations and policies;b. <u>The concept of hierarchy</u>--levels of authority that ensure a system of super- and subordination with each office or position under the control and supervision of a higher one;c. <u>Specialization of task</u>--incumbents are chosen on the basis of merit and ability to perform specialized aspects of a total operation;d. <u>A specified sphere of activity</u>--clear delineation of the various specializations and relationships to be observed between them;e. <u>Established norms of conduct</u>--written documents setting forth policies and procedures to be followed by individual actors in the organization;f. <u>Records</u>--administrative acts and decisions are made a matter of record to ensure predictability in performance within the bureaucracy (16). <p>3. The formal aspects of organization tend to impose restrictions on curriculum by:</p> <ul style="list-style-type: none">a. instituting a uniform scheduling system;b. prescribing inflexible time blocks for instructional units;c. prescribing uniform graduation requirements; andd. departmentalizing curriculum content. | <p>(16) <u>Leadership in Administration of Vocational and Technical Education.</u></p> |
|---|--|

Content Outline (continued)

B. Informal Aspects of Organization

Informal organization, the actual operating structure, is not an outcome of administrative planning but is rather the series of unplanned relationships among its members.

1. Sociometric and communication patterns are essential to the relationships and operations of an organization. Patterns of actual communication are often at variance with the lines of communication defined by the official administrative blueprint. These relationships inevitably alter the formal organization of the school (16).*
2. There is growing acceptance of the idea that organizations must be evaluated by human criteria as well as by goal achievement. The satisfaction and personal growth of people, as well as the productivity of the organization, must be considered (16). This concept has some implications for curriculum design and selection:
 - a. In some cases teachers need more decision-making power concerning the accomplishment of the goals and objectives of the courses they teach.
 - b. Organization should be structured to facilitate the curriculum rather than the curriculum made to fit an organizational structure.

(16) Leadership in Administration of Vocational and Technical Education.

* See Discussion Question 0 in Part III.

(16) Leadership in Administration of Vocational and Technical Education.

Content Outline (continued)

C. Innovative Curriculum Characteristics

During the past decade vocational education curriculum has become more responsive to students and to society. Programs are being made available to a wider population and traditional school organizations are opening their doors and schedules to curricula that promise improved effectiveness. For the curriculum specialist who wishes to improve the present curriculum by implementing new approaches, improved techniques, and more effective materials, the following are some examples of innovative vocational education curricula (12).

1. Linkage between programs. Interdisciplinary efforts are increasing within vocational programs and among other subject-matter areas to increase the relevancy of education. A good example of this is the Industrial Arts Curriculum Project headquartered at Ohio State University. This project integrates science and math with industrial arts laboratories.
2. Individualizations. This is an experimental student controlled curriculum providing individualized instruction that allows the student to move up a skill ladder in his chosen career field at his own pace. Such a program is proving successful at a Quincy, Massachusetts vocational-technical school.
3. Joint occupancy. Several school districts have become involved in planning or building schools that are tied both physically and programmatically to commercial enterprises.

(12) Vocational
Education:
Innovations
Revolutionalize
Career Training.

Content Outline (continued)

4. Time sharing provision. Schools which cannot afford their own laboratories and equipment may profit by sharing equipment and facilities with other schools. Such arrangements usually require a capable coordination staff, transportation, and scheduling flexible enough to include a possible extended day or weekend program.
5. Use of education-industry partnerships. These arrangements go beyond the typical cooperative education programs and provide greater depth and breadth to the total education-industry-business involvement. The Chrysler-Northwestern Program is an example of such an arrangement. Chrysler provided equipment, facilities, counseling, and training within the school setting, in addition to providing teaching grants for teachers to develop new programs.
6. Job placement provisions. Programs that automatically provide for job placement are in high demand in many vocational education settings. The success of such programs is exemplified by the Nautical Occupations Program in Ketchikan, Alaska, which has jobs waiting for all of its graduates.

D. Study Activities

Based on your reading of the content outline and any additional references as suggested, complete the following activities.

1. What effect does the scheduling system of a given school have on vocational education curriculum selection?
2. Give three examples of problems you have experienced or heard about in regard to the relationship between curriculum and school organization.
3. What is school organization?
4. "Curricula must fit within a uniform organizational structure in order to make it manageable."
Agree or disagree with that statement and support your answer with three or four arguments.
5. Describe the "bureaucracy model" of organization.
6. What are the formal and informal aspects of organization which influence curriculum and its selection or design?
7. How would you determine the effectiveness of a school organization?
8. Analyze the preceding program descriptions and then compile a list of at least eight characteristics that could be used as criteria for identifying innovative vocational education curricula.

Wrapup Activity

NOTE: To meet the basic requirements of this module, select one of the following activities and complete it as directed. If you wish to gain additional credit beyond the basic requirements, you may choose a second activity to complete. Consult with your instructor first if you wish additional credit.

1. Prepare a brief paper summarizing and comparing work-study and cooperative education enrollments in your state. Show trends and, if possible, analyze data showing the sizes of schools in which cooperative programs are found. Also analyze and compare enrollments by vocational occupation area, that is, agriculture, trade and industry, and so on.
2. Describe how you or others, in the past, have selected curriculum experience and materials.

Part III:

Group and Classroom Activities

PART III

GROUP AND CLASSROOM ACTIVITIES

Classroom Activities

NOTE: The following activities are designed for use in the classroom to stimulate discussion on specific topics covered in this module. The activities are designed to be used following student self-study; however, depending on the background and abilities of students, these activities may not require previous study. All classroom activities are keyed to the content outline to indicate an appropriate point at which they might be presented.

1. Divide the class into small groups, according to subject-matter interest. Assign one of the three cluster approaches (pyramidal, vertical-hierarchical, or functions of industry) to each group.

Each group then has the task of describing its type of cluster and of constructing a diagram depicting an ideal cluster organization for the particular subject. The diagram can be either pyramid, vertical-hierarchical, functions of industry, or any other configuration the group agrees would be useful. If the participants do not agree on the diagram, encourage them to suggest alternatives and to develop alternative diagrams. Each group (and each sub-group) must present its diagram to the rest of the class as though the group was presenting its cluster organization to an administrative body or a board of education. The participants of each group must defend their particular cluster approach before the rest of the class.

After each group has presented its particular argument, review each type of cluster concept and have the class discuss the advantages and disadvantages of each.

If students have no clear ideas of how their diagram should be developed, you might want to show them the following three sample diagrams taken from the book Cluster Concept in Vocational Education by Donald Maley, pp. 54, 44, 61.

CLUSTER CONCEPT
THE PYRAMID (CONTENT FIELD) MODEL

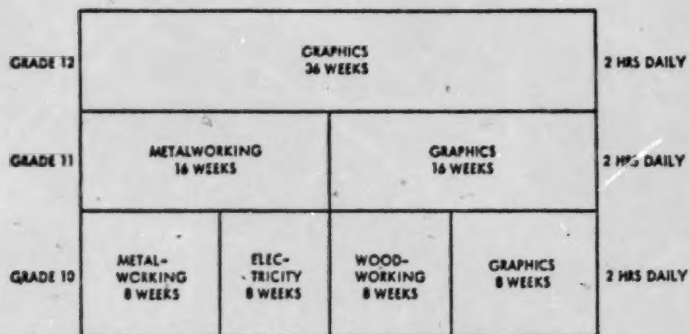


Figure 3-2.

FUNCTIONS OF INDUSTRY
CLUSTER TO APPRENTICESHIP MODEL

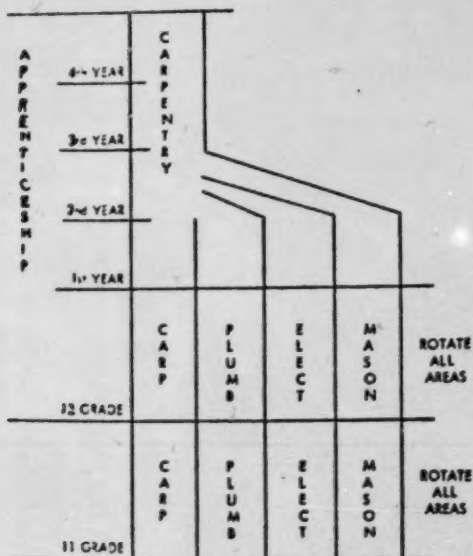
MODEL A
TRAINEE DRAFTSMAN
JUNIOR DRAFTSMAN
DRAFTSMAN
SENIOR DRAFTSMAN
LEAD OR CHIEF DRAFTSMAN

MODEL B
BEGINNING DRAFTSMAN
JUNIOR DETAILER
SENIOR DETAILER
DRAFTING CHECKER

MODEL C
JUNIOR DRAFTSMEN
DETAILER
DRAFTSMAN
SENIOR DRAFTSMAN
CHECKER
DESIGN DRAFTSMAN
DESIGN ENGINEER

Figure 3-3.

THE VERTICAL-HIERARCHICAL
CLUSTER MODEL



11th AND 12th GRADES
1 TWO-YEAR PROGRAM
2 TWO HOURS DAILY

Figure 3-4.

2. Divide the class into small groups by subject-matter interest. Assign each group the following activity: Select an occupation and a grade level (high school, area occupational center or college). List those skills that can best be learned on the job, and those skills that should be learned in a classroom. Sequence the skills that should be learned in the classroom and on the job into a hierarchy for instruction. Then have students complete the following outline for a cooperative education program. All skills that should be learned on the job should be listed on this outline form. After the groups have spent about 30 to 45 minutes on this project, bring them together and have them discuss their work with the entire class.

Outline for Cooperative Education Program

1. Title of Job
2. Job Description
3. Entry-Level Requirements
4. Learning Objectives or Outcomes

NOTE: If students are not sure how specific to make their learning objectives, they should be told to make them more specific than they may think is necessary. See the sample form on the following pages of this guide.

SAMPLE OUTLINE FOR A COOPERATIVE EDUCATION PROGRAM

STEP-BY-STEP TRAINING PLAN*

Clerk-Stenographer
Social Studies Division
Office of Demonstration Project for the Gifted

- A. **Title of Job:** Clerk-Stenographer
- B. **Job Description:** Perform secretarial duties for the three staff members. Duties include taking dictation, transcribing, typewriting, duplicating, assembling, filing, ordering supplies and materials, assisting institute participants, answering the telephone, and doing other tasks requested by employers.
- C. **Career Objective:** Executive Secretary
- D. **Areas of Experience and Training:**
1. Taking Dictation and Transcribing
 2. Typewriting
 3. Duplicating
 4. Assembling
 5. Filing
 6. Ordering Supplies and Materials
 7. Assisting Institute Participants
 8. Using the Telephone
 9. Public Relations
 10. Office Production Techniques
- E. **Detail of Areas of Experience and Training:**
- | Planned Learning Outcomes | Training
in Class | Experience
On the Job |
|---|----------------------|--------------------------|
| 1. Taking Dictation and Transcribing | | |
| a. Learn to take dictation rapidly | X | X |
| b. Learn to transcribe shorthand notes rapidly | X | X |
| c. Learn to operate and transcribe from Recordall briefcase tape recorder | | X |
| d. Develop ability to produce accurate copy consistently | X | X |
| e. Study the files for samples of previous correspondence and other transcripts | | X |
| 2. Typewriting | | |
| a. Develop accuracy at a rapid rate | X | X |
| b. Learn to use IBM Executive typewriter skillfully | X | X |
| c. Learn to type attractive letters | X | X |
| d. Learn to type class transcripts | | X |
| e. Learn to type tests | | X |
| f. Learn to prepare attractive tabulations | X | X |
| g. Learn to make multiple carbons | X | X |
| h. Learn to correct and type from rough drafts | X | X |
| i. Learn to proofread accurately | X | X |
| j. Learn to change carbon ribbons | X | X |

*Adapted from a step-by-step training plan developed by Writeman Long at the University of Illinois in analyzing his training experiences in the position described.

(11) Cooperative Occupational Education,
pp. 483-485.

SAMPLE OUTLINE FOR A COOPERATIVE EDUCATION PROGRAM (cont.)

Planned Learning Outcomes	Training and Experience	
	In Class	On the Job
3. Duplication		
a. Learn to cut stencils properly	x	x
b. Learn to use stylus and lettering guides	x	x
c. Learn to use Gestetner silk-screen process duplicator	x	x
d. Learn to store stencils properly	x	x
e. Learn to prepare Ditto masters	x	x
f. Learn to use Ditto spirit-process duplicator	x	x
4. Assembling		
a. Learn to swiftly assemble papers manually	x	x
b. Learn to use electric collator		x
c. Learn to use electric jogger		x
d. Learn to use manual stapler	x	x
e. Learn to use electric stapler		x
5. Filing		
a. Learn to file alphabetically	x	x
b. Learn to prepare file folders	x	x
c. Learn to code and file stencils		x
d. Learn to code and file tapex		x
e. Become familiar with office files		x
f. Learn to retrieve materials from office files quickly		x
g. Form the habit of making and keeping an extra copy of everything prepared	x	x
h. Attempt to discover ways to improve office filing system		x
6. Ordering Supplies and Materials		
a. Become familiar with supplies used in office		x
b. Observe need for replenishing supplies		x
c. Learn to prepare supplies requisitions		x
d. Learn to store supplies correctly		x
e. Learn to order books		x
f. Learn to order films		x
7. Assisting Institute Participants		
a. Learn to schedule appointments		x
b. Become familiar with location of various campus offices		x
c. Learn to direct people to proper locations on campus		x
d. Learn to give assistance in library usage		x
e. Learn to instruct participants in correct format for materials being prepared		x
8. Using the Telephone		
a. Learn to answer the telephone courteously	x	x
b. Learn to take and record messages	x	x
c. Learn proper technique for making internal and external calls from campus phones		x
d. Learn to use staff directory		x
e. Learn proper procedure for W.A.T.S. calls		x
f. Learn to secure information via the telephone		x

SAMPLE OUTLINE FOR A COOPERATIVE EDUCATION PROGRAM (cont.)

Planned Learning Outcomes	Training and Experience	
	In Class	On the Job
9. Public Relations		
a. Learn to deal with people courteously at all times	x	x
b. Learn to cooperate with workers in other offices		x
c. Learn to furnish requested information		x
d. Learn to supply needed materials		x
10. Office Production Techniques		
a. Learn to handle materials efficiently	x	x
b. Learn to organize work according to its immediacy of need		x
c. Learn to work under pressure of time deadlines without becoming disturbed	x	x
d. Learn to perform a variety of office tasks in a swift, yet unhurried, manner		x
e. Form the habit of verifying the accuracy of all work produced	x	x
Specific References:		
1. Reigner, Charles G. <u>English for Business Men</u> . 2nd Edition, N. M. Rowe Company, 1931.		
2. Carnegie, Dale. <u>How to Win Friends and Influence People</u> . Simon and Schuster, 1949.		
3. <u>The Secretary's Handbook</u> . 7th Edition Macmillan Company, 1949.		
Project: Preparation of an office manual for a beginning employee.		
Career Objective References and Activities:		
1. <u>Today's Secretary</u> --regular reading of each issue.		
2. <u>Business Week</u> or <u>Newsweek</u> or <u>Changing Times</u> --regular reading of selected articles on business conditions and developments in office procedures and technology.		
3. Attend local professional association meetings.		
4. Investigate possibility of further formal and informal education in the executive secretarial field.		

3. Ask students to form a number of small groups. Each group should define the following terms: curriculum, curriculum content, curriculum design, and curriculum selection. Then have each group report and discuss its definitions. The following concepts should be emphasized:
 - a. Curriculum is the general overall plan of content, materials, and activities that the school offers the student to qualify him for graduation, certification, or for entrance into a profession or vocational field.
 - b. Curriculum content refers to both learning materials and experiences (activities).
 - c. Curriculum design refers to the process of developing materials and experiences.
 - d. Curriculum selection refers to procedures for choosing different curricular content and designs already developed.
4. Ask students to divide into groups according to their area of occupational interest. Ask each group to decide on four fundamental skills in that occupational area, four fundamental attitudes, and four fundamental cognitions. For example:

Child Care (Occupational Home Economics)

skills: prepare physical facilities for child care center;
lead children in games

attitudes: recognize that child behavior is often a reflection of
feelings of security or insecurity

cognitions: describe certain aspects of development or lack of it
in a child;
point out strengths and weaknesses in the physical
facilities of child care centers

5. Ask students to identify and then analyze one of the most relevant learning experiences they have had in vocational education. Discuss these experiences in relation to:
 - involvement of business and industry;
 - relationship, if any, to present occupation;
 - participation of many people from many aspects of society;
 - broad or specific experiences;
 - what it did; did it increase ways of effective thinking, attitudes, interests, skills?
6. Given an advisory committee made up of school administrators, students, and business and industry representatives, describe the role of each in curriculum development when:
 1. revising an ongoing program
 2. developing an entirely new curriculum.

Remember that an advisory committee only offers advice and that final responsibility for administration of a school's program rests with the elected or appointed school board or trustees.

Since there are several distinct and possibly conflicting groups represented in this advisory committee, develop a procedure for harmonizing the potential conflicts.

Students will be concerned with the relevancy of subject matter since they view it as preparation for the specific occupation. They will also be concerned with the compatibility of the prerequisites needed for success in the chosen curriculum.

Union representatives will be careful to weigh the supply and demand situation in training programs. They are interested in seeing all their members employed before new training programs are started.

For trades in which apprenticeships are possible, their concern will also reflect the screening of apprentice applicants.

Management representatives, in contrast to the restrictive union point-of-view regarding the supply of labor, want an abundance of trained personnel. Also, management stresses an emphasis in curriculum on the affective domain, that is, attitudes, values, etc. Management will be concerned with program costs too because of budget implications. Lay members of the public, as the immediate representatives of the school community, will be concerned that the new or revised curriculum reflect the cultural and social biases of the school community. The ethnic minorities will question curricula that do not provide for career ladder development.

School representatives are interested in articulation with existing disciplines, the budget, and the implications for the total school curriculum. School administrators will be aware of budget and programming implications.

7. Ask students to bring their "rating sheets" to class along with a set of the curriculum materials they are currently using. Have students trade materials and evaluate them according to the selection criteria on the rating sheets. A discussion of the rating should follow.
8. This activity is related to Study Activity II. Please see page 44. Refer to that exercise, then have students compare community college curricula on the following bases:
 - number of different occupational programs
 - kinds of occupational programs
 - evidence of articulation of coordination with other schools, particularly with contributing high schools
 - evidence of attempts to meet the needs of special groups
 - provisions for vocational counseling

Discussion Questions

- A. Identify the differences between the cluster concept program and the traditional program in vocational education.

(Students should mention that in the cluster program a variety of related skills are taught as one unit of instruction; that the cluster approach identifies the commonalities of content related to a variety of fundamental skills; that the cluster approach attempts to enable students to learn skills so that they can be employed in an entry-level job; and that the cluster program is seen as a prelude to further training in a number of related occupations or jobs.)

- B. What are the main advantages of the vertical-hierarchical model over traditional approaches to organizing curriculum in vocational education?

(Students should mention that the main advantage is that a concerted effort is made to identify a hierarchy of the skills and knowledge required to be taught in each occupation. This is of tremendous importance because curriculum planners, instructors, and teachers can be assured that the instruction will be relevant to the needs of industry and business. Also the vertical-hierarchical model lends itself to the career ladder concept of a life-long learning program of self-improvement and growth. Students have a clear idea of related skills that, once learned, make them eligible for promotion.)

- C. Discuss the advantages and disadvantages of the functions of industry model as used in vocational education.

(Students should mention that the advantage is the broad view of industry and business this approach provides. However, there is the problem of teaching skills that students may not be able to apply directly.)

- D. What are the common characteristics of work-study programs and cooperative education programs? In what ways are they dissimilar?

(Common characteristics: on-the-job experience, helps students make transition from school to work, allows students to stay in school at least part-time, motivates students to learn, helps students explore occupations. Dissimilar characteristics: degree to which they are related to classroom instruction, amount of school supervision, amount of learning that usually occurs.)

- E. How would you justify or dispute the statement, "Some form of general work experience program should be included in the curriculum of every senior high school student"?

(Students should mention that work is important for more students [male and female] and the sooner students are aware of potential occupations, the sooner they can prepare themselves for the world of work. There can, however, be an argument based on lack of available jobs, and whether or not students should hold these jobs at the expense of the unemployed.)

- F. Have students describe the characteristics, good and bad, of work-study and cooperative programs they have taken part in or seen in their school districts.

(The discussion will depend on the experiences of the participants. You should be prepared to discuss work-study programs and cooperative programs that you have developed, supervised, or evaluated.)

- G. What are some "pertinent considerations" in validating vocational education content?

("Pertinent considerations" include: the curriculum must prepare people to earn a living and it must prepare skilled workers for available jobs.)

- H. What are some fundamental skills necessary to become employable but not specifically vocational education skills?

(Reading, writing, decision making, development of a work ethic. Discuss with your class the responsibilities, if any, of vocational educators in relation to these fundamentals.)

- I. Is it really advisable or necessary to try to involve such a diverse group in curriculum planning or selection?

(In the past a frequent criticism of vocational and technical education programs was that they were developed solely to meet the needs of the "establishment" for cheap manpower. It was alleged that program and curriculum development occurred in response to local business and industry needs, not in response to the real needs of students. Obviously, vocational education must be responsive to both and a diverse group of planners would help secure such responsiveness.) (16)

- J. Ask students to give an example of a curriculum approach that attempts to operationalize the philosophy of the above statement (see p. 32).

(Training students in broad clusters of occupations attempts to (1) expose the student to an understanding of the "real world of work;" (2) train students in a core of generalizable skills; (3) orient students to successful job performance and living attitudes; (4) help students cope with the changing world of work.) (14)

- K. Discuss the career ladder and career lattice concepts with students (job shifts up or across in a specific field). Then discuss why this consideration is important for secondary curriculum specialists.

(Your discussion might include the following points:

- equipment and facilities are bought on a long-term basis.
- training for "dead-end jobs" is not in the best interest of most students.
- interests and abilities change and develop.
- projections indicate that most people will change jobs at least five times during their life.)

- L. What kind of curriculum selection could conceivably help to achieve the goals of a preventive program and increase enrollments?

(Possibilities for discussion include the following:

- select curriculum that can be seen to be relevant. The degree of relevance of vocational education programs can be either their greatest strength or their greatest weakness.
- provide more and better guidance services. Helping youth make vocational choices and decisions is a service that has been poorly handled in the past.
- offer a wide range of programs.
- make available to students and teachers more and better information about vocational education and employment needs.)

- M. What are the major youth organizations for vocational education? Ask students to relate their experiences with any of these clubs. Have a discussion on how youth organizations can contribute to and enhance vocational education programs.

(DECA [Distributive Education Clubs of America], FBLA [Future Business Leaders of America], FHA [Future Homemakers of America], OEA [Office Education Association], VICA [Vocational Industrial Clubs of America], FFA [Future Farmers of America]).

- N. Ask students to provide some examples of the community college population and curriculum variability.

(For example: Community colleges are offering 1,624 occupational programs leading to the two-year associate degree. In addition, they offer a total of 3,708 occupational education programs leading to certificates or job entry requirements below the associate degree. Another 3,970 occupational education programs are now in various stages of planning and development. It was estimated that by the end of 1972 there would be 20,700 occupational education programs in community colleges in the 50 states.) (14)

- O. Ask students to give some examples of such communication patterns and their effects.

(For example: Faculty support or nonsupport may be given to an administrative policy or program on the basis of social relationships and communication patterns established among members of the faculty.)

Part IV:

Student Self-Check

PART IV

STUDENT SELF-CHECK

GOAL 6.1

1. Describe the characteristics of the clusters, families, or common elements of occupations approach to vocational education. (6.11)
2. Describe the main characteristics of the following models of clustering used in vocational education. (6.12)
 - a. The pyramid cluster model
 - b. The vertical-hierarchical cluster model
 - c. The functions of industry cluster model
3. Describe the advantages and the disadvantages of the following cluster models used in vocational education. (6.13)
 - a. The pyramid cluster model
Advantages:
Disadvantages:
 - b. The vertical-hierarchical cluster model
Advantages:
Disadvantages:
 - c. The functions of industry cluster model
Advantages:
Disadvantages:
4. Identify five or more concerns associated with the development or operation of a cluster program in vocational education. (6.14)
5. Develop guidelines for handling the five concerns identified in Question 4. (6.15)

6. Describe the major advantages and disadvantages of the unit shop or area of specialization approach to vocational education. (6.16)

Advantages:

Disadvantages:

7. Describe the characteristics of the work-study approach to organizing vocational education by answering the following questions. (6.17)

- a. What is the meaning of the term work-study as it is used in vocational education?
- b. What are the major characteristics of a work-study program?
- c. What are the major differences between work-study programs and cooperative programs?

8. Describe the characteristics of the cooperative approach to organizing vocational education programs by answering the following questions. (6.18)

- a. What is the meaning of the term cooperative education?
- b. What are the major characteristics of a cooperative education program?
- c. What are the major student, instructor, and administrative problems or organizational difficulties usually associated with cooperative education programs?

9. The following items test your knowledge of the intelligent and systematic selection of curriculum materials. Complete the sentences by filling in the blanks. (6.2)

- a. Well-defined _____ can guide and direct the educator in selecting curriculum materials and experiences. (6.2)
- b. Curriculum content is _____ to the extent that it reflects contemporary knowledge and methods. (6.21)
- c. Valid vocational education curriculum must facilitate the achievement of at least two objectives: (1) vocational education curriculum must _____; and (2) vocational education curriculum must _____. (6.21)

- d. In addition to the above mentioned considerations for determining curriculum validity, one must also consider the extent to which the curriculum provides for fundamental _____ and _____ and _____ needs of an individual and society. (6.21)
10. A relevant vocational education curriculum is one which is consistent with _____. (6.22)
11. Answer "true" or "false" to the following statements.
- _____ a. One way to ensure a relevant vocational education curriculum is to require that the curriculum include close co-operation with business and industry. (6.22)
 - _____ b. Vocational education has been criticized for "overeducating" large numbers of people. (6.22)
 - _____ c. If all curriculum were relevant and valid, as defined in this module, the problem of "overeducation" would be diminished. (6.22)
12. A curriculum which provides for a wide range of objectives with general applications is said to have _____. (6.23)
13. Give an example of the curriculum concept described in Question 12. (6.23)
14. A curriculum that emphasizes specific objectives for a specific task has more _____ than _____. (6.23)
15. Give an example of the curriculum concept described in Question 14. (6.23)

16. Headings that provide organization to curriculum materials by identifying who the materials are for, what items the materials include, and the sections into which the materials are divided are called _____. (6.24)
17. Give four examples of the headings referred to in Question 16. (6.24)
18. What should be one of the major characteristics of a secondary program in view of the fact that high school represents a termination of formal education and training for some students? (6.31)
19. _____ should be considered a supplement to and an extension of the secondary vocational education program. (6.31)
20. Name three aspects that are (or should be) considered essential characteristics of secondary vocational education. (6.31)
21. Answer "true" or "false" to the following statements.
- _____ a. It is not a function of the community college to be concerned with providing programs for unemployed adults who have skills but are not working. (6.32)
 - _____ b. Considerable evidence supports the contention that the community college is becoming an "all-purpose" institution. (6.32)
 - _____ c. One way to meet the needs of a diversified student population such as contained in the community college is to provide for curriculum alternatives. (6.32)
22. What are four formal aspects of institutional organization that directly or indirectly influence the curriculum? (6.41)

23. What are two informal aspects of institutional organization that directly or indirectly influence the curriculum? (6.42)

Part V:

Appendices

PART V

APPENDICES

Appendix A:

Possible Study Activity Responses

GOAL 6.1

1. The cluster concept program is a form of vocational education that prepares the individual to enter employment in a number of occupations with similar mental and physical requirements and related work skill requirements; the program permits a high degree of mobility within, as well as entry into, the occupations associated with the cluster. The cluster concept is not intended to provide in-depth preparation for any single occupation. It does provide an explanatory experience coupled with direct occupational preparation at the job-entry level. The key to the effectiveness of the cluster concept is whether or not multi-occupational training results in job placement and/or facilitates mobility and transfer within the occupations represented in the cluster.
2.
 - a. The cluster concept provides an opportunity for exploration in a variety of occupations.
 - b. The cluster concept provides students with an opportunity for self-exploration by allowing them to try experiences associated with a particular cluster area.
 - c. The cluster concept enables the individual to make effective career decisions.
3. The pyramidal approach to clustering starts with a broad base of exploration, and each year the studies become more focused and in-depth until finally only one occupation is studied. A major purpose of the pyramid is to facilitate career decisions by narrowing the training area as decisions regarding career goals are refined. In Grade 10 four occupational areas are usually studied; in Grade 11 two occupational areas are studied; and in Grade 12 only one occupational area is studied.

4. The pyramidal approach permits a systematic and sequential exploratory experience in a specific occupation. It permits a student to specialize gradually, and provides for a certain amount of multi-occupational understanding and involvement. The three phases provide for exploration, development, and finally, employability. The main disadvantage is that if a student drops out of school during the first or second phase, that student has not gained employable skills.
5. The vertical-hierarchical cluster model organizes content with a single occupational category but stresses the different levels or job classifications within that occupation. It is based on the idea that as one moves up the structure, different job classifications require different skills. Students are able to determine where they fit on the ladder of skills.
6. The advantages, as described by Donald Maley in Cluster Concept in Vocational Education, include the following:
 - a. Each student has the opportunity to move as high (or deep) into the levels of complexity or difficulty as his interests or abilities will permit. The whole concept of individual differences with regard to potential attainment within an occupational hierarchy is a reality in this type of program.
 - b. Such a cluster structure also enables students with modest or low ability to find their place in a program as well as function optimally in an area of interest to the individual.
 - c. The vertical cluster concept provides a diversity of levels of opportunity for success for a class that may have many such levels of ability, aspiration, and potential represented in the student body.
 - d. This cluster form achieves its diversity through the versatility of the teacher and the structure of the occupational analysis that led up to the formulation of the arrangement.
 - e. A single unit laboratory is all that is required for this form of clustering since the exploratory function is in-depth or to the extent of one's capability rather than across occupational lines.

The disadvantages mentioned by Maley include the following:

- a. The hierarchical cluster requires the services of the unusual teacher who sees his task as helping each student become whatever it is possible for him or her to become within the occupational area under study.
- b. Another major operational concern for such a cluster concept is related to the nature of the program. An occupational analysis must be conducted.
- c. A third major operational concern in this hierarchical cluster structure centers around the difficulty and variety of instructional strategies that the teacher must develop or pursue.
- d. And finally, since all students do not reach the same level in the hierarchy at the same time, the instructor must constantly evaluate student learning and must provide alternative learning activities.

7. The functions of industry cluster is a broad-field model aimed at first and second level job-entry skills. It allows the student to develop skills and understanding at two different levels--those required for job-entry, and those needed approximately six months after that. It is a two-year, two-period per day program.
8. The main advantage to the functions of industry model is that it permits the instructor to devote full attention to a single occupational area over a specific period of time. It also assures the instructor that all students are given the instruction in each of the separate occupational areas. One disadvantage is that it demands a much larger and more complete set of tools and equipment for each of the unit areas in order to accommodate the total class. There are also certain limitations in the kind of instructional strategies the instructor might use that would require the skills of all the unit occupations. Record keeping and other clerical aspects of teaching are also more complex in this system.
9. You should have listed any five of the following concerns:
 - a. community-employment analysis
 - b. school-adaptability
 - c. student interests
 - d. size of student body to be served
 - e. community participation in the program
 - f. use of present staff and need for new instructors
 - g. in-service development of staff
 - h. student-skill inventory
 - i. community skill-need industry
 - j. physical plan needs
 - k. school organization
 - l. employer participation in program development
 - m. student placement
 - n. student follow-up
10. (The specific response to this activity depends on the particular concerns you selected, as well as on your personal choice of program selection, organization, and management. If you have any questions regarding your answer, discuss them with your instructor. Check your answers by reviewing pages 215-231 in Cluster Concept in Vocational Education by Donald Maley.)

11. The unit shop provides a single shop facility for student experience in one area or subject.

12. The advantages and disadvantages of using a unit shop are:

Advantages:

- a. in-depth study of one subject
- b. limited variety of required machines
- c. instructors can be specialists
- d. students can usually learn a skill well enough to be employable upon graduation

Disadvantages:

- a. students do not have an opportunity to explore related occupations.
- b. if the wrong skills are being taught, students are totally unemployable.

13. Work-study refers to a method of instruction in which students can both attend school and work parttime in a paying job. Usually classroom instruction is not related to the work experience, but students do have objectives they are trying to accomplish. Also, an effort is usually made to ensure that the student is working in a field that will give him experience in his chosen vocational area.

14. The purpose of providing work-study experience includes the following:

- a. It helps students develop and refine occupational competencies, adjust to the work environment, and advance in the occupation of their choice.
- b. It enables students to earn enough money so they can stay in school.
- c. It provides practical experience that demonstrates the need for continued education.
- d. It provides some degree of instructor supervision to ensure good, steady employment.

15. The important characteristics of a work-study program include the following:

- a. Students work as much as four hours per day in a paying job.
- b. There is minimal adult supervision.

- c. Student objectives outline the purpose of the work-study experience for the student.
 - d. Students learn valuable skills in the occupation of their choice.
 - e. Students learn entry-level skills and explore related occupations.
16. Disadvantages include:
- a. Students do not always have the opportunity to explore related job opportunities or career options.
 - b. Students do not usually have adequate or close supervision by the school staff.
 - c. Students do not receive instruction that relates to the work experience.
 - d. Students are occasionally taken advantage of by the employer who cannot afford to provide the student with a variety of work experiences.
17. Specific responses to this question will vary. However, you might mention that although the statement is true, some work experience is usually advantageous even if it is not under perfect conditions.
18. Cooperative education is a form of education in which classroom theory and practical work experience are integrated and students spend specific periods of time at school and specific periods of time on the job. The work experience is closely related to the student's course of study and interest.
19. The purpose of cooperative work experience is to:
- a. enhance classroom instruction through supervised work;
 - b. broaden a student's educational background; and
 - c. allow students to earn an income.
20. The important characteristics of cooperative education include the following:
- a. The student's work is related to his field of study and vocational choice.
 - b. The employment is considered to be a regular, continuing, and essential element in the educational process. Some minimum standard of performance is included in the requirements for successful completion.
 - c. Ideally, the work experience will increase in difficulty and responsibility as the student progresses through the academic curriculum.

21. Difficulties and disadvantages that often occur include the following:
- a. Job placement does not always relate directly to the academic needs of the student.
 - b. The school instructor cannot control the work experiences, and certain valuable experiences may never occur.
 - c. Laws regarding heavy and dangerous equipment do not allow students under the age of 18 to accept certain jobs that have high employment potential.
 - d. Occasionally employers put students into one restrictive job and students do not have an opportunity to learn a variety of skills or to explore other related occupations.

22. Advantages include the following:

ADVANTAGES FOR STUDENTS

- a. It gives them an opportunity to develop their aptitudes and interests.
- b. They graduate from high school with enough fundamental training in an occupation to make them employable.
- c. It gives the student who is dissatisfied with the ordinary academic or general curriculum the desire to remain in school and earn a high school diploma.
- d. It assists the student who is in financial need to complete his school education.
- e. Should a student decide to go to college, his occupational training may be an asset to him in earning his expenses. Furthermore, his experience as a wage earner will have helped him develop the proper attitude toward work, the ability to get along with people, and a deeper appreciation and understanding of the community in which he lives.
- f. It helps the student to make adjustments to working conditions in industry while still under the supervision of the school.
- g. The student is trained in the skills of his occupation under actual, rather than pseudo, working conditions.

ADVANTAGES FOR THE SCHOOL

- a. It does not have to buy expensive shop equipment since the manipulative skills are acquired in the employer's establishment.
- b. The program provides a means of projecting the school into the community.
- c. It keeps a greater number of youth in school for a longer period of time.
- d. It provides a direct avenue for meeting the community's needs for trained workers.
- e. It provides a means of keeping the school abreast of business and industrial needs.

GOAL 6.2

1. The first criterion for selecting curriculum experiences is validity of content.
2. Only vocational curriculum that is valid should find its way into the program. For example, curriculum that cannot demonstrate its utility in preparing people for employment should not be included in the program.
3. Student answers may be considered correct if they include at least two of the following:
 - a. occupations change
 - b. skills become obsolete
 - c. knowledge and technology continue to expand
 - d. there is no defined system or procedure for selecting materials and experiences for vocational education curricula and there is disagreement among vocational educators.
4. Vocational education curriculum must prepare people to earn a living and must prepare skilled workers for available jobs.
5.
 - a. home economics: child care services, paid occupations in food, clothing, and housing
 - b. agriculture: agribusiness - farm mechanics, horticulture, forestry.
 - c. distributive education: must be aware of consumer trends in clothing, food, housing, credit, environment, social factors.
 - d. trade and industry: more technicians in all fields, especially health occupations (which often fall under trade and industry).
6. Validity is determined by:
 - a. the extent to which curriculum reflects contemporary technological knowledge and methods;
 - b. the extent to which it provides for fundamental skills and attitudes; and
 - c. the extent to which it meets the occupational competency needs of individuals and society.

7. The second criterion for selecting curriculum experiences is relevancy of content.
8. Vocational training which requires industry or business participation is more likely to be relevant than training which leaves out this element.
9. "Overeducation" has become a problem for general education as illustrated by the following news article from The Christian Science Monitor, August 18, 1975.

JOB PROBLEM FOR GRADUATES: OVER EDUCATION

Unemployment has captured the national spotlight in recent months. But with a new crop of graduates in the labor force, a related problem--underemployment--is being examined. Underemployment is working at a job that does not make good use of one's ability, training, or experience.

Graduates with Ph.D.s have been driving cabs and engineers have been slinging hash for years. What's new is that it is no longer unusual to find large numbers of "over educated" people holding menial or routine jobs. Analyses of the American job market offer little hope that this condition will improve. In fact the gap between job supply and demand is likely to widen, according to official projections.

Unlike unemployment, there is no official or objective measurement of underemployment. But its prevalence is well known. A study of working conditions conducted for the Department of Labor in 1974 found that 35 percent of all American workers believed they were overqualified for their jobs. Myron Clark, former president of the Society for the Advancement of Management, puts the figure at about 80 percent.

James O'Toole of the Center for Futures Research at the University of Southern California feels that the problems of underemployment "are basic and enduring shortcomings in the labor market."

Many young people who grew up believing education was the key to career success, he says, will be forced to take unchallenging jobs in which they have little interest and where the opportunities for advancement are slight. In the process, many less-educated workers will be displaced.

Mr. O'Toole is not alone. The U.S. Bureau of Labor Statistics, in a recent survey of the job outlook through 1985, found "problems for college graduates will more likely be employment below the level of skill for which they were trained, resulting in job dissatisfaction and high occupational mobility rather than unemployment."

According to the bureau's projections, there will be 800,000 more college graduates in the labor force by 1985 than there will be job openings for them.

The oversupply of college graduates has an impact on the whole work force. Workers already in the labor force are aware that employers would have little difficulty replacing them and remain on jobs, which, in another era, they would probably have left for more satisfying work.

Underemployment, and the feelings of entrapment and dissatisfaction it engenders, has not only human but economic consequences. It has been shown that highly educated workers in unchallenging and tedious jobs tend to be less productive and more accident-prone than their less gifted co-workers.

Some see as one answer to the problems of unemployment and underemployment the creation of thousands of public service jobs. But "leaf-raking make-work," as critics have called these programs since the Depression, is not likely to satisfy or challenge today's educated job seekers.

Underemployment relief can come in two basic ways. The first is the creation of many more good jobs that would use the skills and knowledge of an increasingly well-educated work force. The second, and probably more feasible, is a revolutionary change in the concept of work.

Vocational education has not yet been accused of "overeducation." The problem in vocational education is more one of "oversaturation"--that is, of preparing too many workers for the same field and not enough for another.

10. Vocational education might best contribute to relevancy by:
 - a. providing closer contact between education and industry, counselors, teachers, students;
 - b. involving organized labor; and
 - c. providing for participative development of curricula by teachers, counselors, students, business, and organized labor.
11. Breadth refers to a curriculum that provides for a wide range of objectives with broad applications, like the cluster concept.
12. Depth refers to a curriculum that emphasizes specific objectives for a specific task like that in the job analysis approach.

13. The following curricular concerns were addressed:
- specificity of content
 - broad application of content
 - individual learning versus group learning
 - teaching method preferences of teachers and administrators
 - guidelines for individualizing curriculum materials
 - appropriateness to student needs and interests
14. Law (9) defines "prescribed curriculum" as a common curriculum for all students in a given program based on the concept that the knowledge to be mastered is limited, specific, and constant. For example, in an auto mechanics course all students do not need the same set of competencies for successful job entry or advancement.
15. a. False
b. True
c. False
d. True
16. The following is an example of a rating sheet.

RATING SHEET FOR CURRICULUM SELECTION

a. Content related to the objectives	7	4	2	1
b. Validity or technical quality of content	7	4	2	1
c. Degree of relevance to the program	7	4	2	1
d. Motivational ideas included	7	4	2	1
e. Appropriate learning experiences--quantity	7	4	2	1
f. Appropriate learning experiences--quality	7	4	2	1
g. Evidence of field testing	7	4	2	1
h. Adequate media or suggested learning material	7	4	2	1
i. Objectives state precisely what student should perform	7	4	2	1
j. Objectives state clearly how well students should perform	7	4	2	1
k. Objectives state clearly under what conditions students will perform	7	4	2	1
l. Concepts or generalizations to be learned are identifiable	7	4	2	1
m. Material demands a minimum of teacher time for daily preparation	7	4	2	1

* High = 7, Average = 4, Low = 2, and None = 1

17. Feel free to evaluate "as you see it." Your rating sheet will be turned in anonymously.
18. This exercise will be completed in class as a group activity.

GOAL 6.3

1. The initial cost of short term programs is too great. Most states require that secondary programs train students for occupations which hold job opportunities over a long period of time.

Funding for short term programs is usually given to the vocational-technical school or to adult vocational-technical programs.
2. High school represents to many students an end (even if temporary) to their formal education and training. If they are not prepared to enter work they all too frequently enter the ranks of the unemployed. This youthful flow into the unemployment pool is too constant.
3. After high school, students generally must decide to enter work, further vocational training, or college training. Students should be prepared to do one of these three activities so that he is not forced into unemployment and eventually a welfare existence.
4. The area vocational school is a supplement and extension of the secondary vocational education program, which serves as a critical facility to service a number of schools within a district.
5. Your answer should include at least the following points:
 - a. to avoid a replication of programs unless such replication is clearly considered valuable;
 - b. to provide the most appropriate and convenient setting for the program;
 - c. to provide for articulation of program offerings;
 - d. to fill gaps that may exist in the vocational education program at either institution.
6. Characteristics that should be considered include:
 - a. cooperative education;
 - b. placement;
 - c. youth organizations.

7. Your answer should include at least the following points:
 - a. a curriculum designed to give students marketable skills;
 - b. a curriculum that is not overlapping needlessly another curriculum in a nearby institution;
 - c. a curriculum that has provisions for cooperative education programs;
 - d. a curriculum that has a placement component;
 - e. a curriculum that is valid;
 - f. a curriculum that is relevant; and
 - g. a curriculum that provides for a wide range of objectives.
8. Reasons you might agree with this statement include:
 - a. well-coordinated and articulated programs better serve student and community needs;
 - b. coordination has direct relationships to cost efficiency and accountability--two demands currently being emphasized in school management.

Reasons you might disagree with this statement include:

 - a. vocational education programs should, in some cases, be strictly a function of local considerations and need not be related to other vocational programs in order to serve local needs.
 - b. coordination could conceivably result in reducing convenience to students if programs in their location are eliminated in favor of another location.
9. Your answer may include the following:
 - a. community college is becoming an "all purpose" institution;
 - b. community college is concerned with meeting the career needs of unemployed adults who have been "laid off" due to economic constraints;
 - c. community college must serve the career needs of high school graduates, high school dropouts, adults, unemployed youth, housewives, and aged;
 - d. many curriculum alternatives are needed to meet the needs of a wide range of students.
10. No. A postsecondary educational institution is defined as an academic, vocational, technical, home study, business, professional, or other school, college or university, or other organization or person offering educational credentials or offering instruction or educational services (primarily to persons who have completed or terminated their secondary education or who are beyond the age of compulsory school attendance) for attainment of educational, professional, or vocational objectives (8).
11. Answers will be suggested in class following group activity.

GOAL 6.4

1. The schedule limits or allows flexibility, determines the number of in-class study hours, and sometimes determines the out-of-class study hours. The schedule can enhance or detract from the effectiveness of the vocational education program.
2. For instance:
 - a. minimum teacher involvement in curriculum selection resulted in a lack of commitment;
 - b. small blocks of time were not conducive to participating in practical laboratory experiences;
 - c. departmentalization of subject matter discouraged integration.
3. School organization is the vehicle through which the curriculum is delivered to the students; it is the structure through which goals and objectives are achieved.
4. There is no right or wrong answer to this statement. You might disagree with the statement for the following reasons:
 - a. The curriculum should be "student centered" not "organization centered."
 - b. Teaching and learning effectiveness is defeated under "uniform" conditions.

Reasons you might agree with statement include the following:

- a. As long as schools are required to keep detailed reports on students, their progress, their failures, their attendance, their credits, etc., a controlled organizational structure is necessary.
5. The "bureaucracy model" has the following characteristics:
 - a. fixed form,
 - b. hierarchy of authority and decision making,
 - c. specialized personnel and tasks,
 - d. clearly defined responsibilities and relationships,
 - e. established norms of conduct, and
 - f. detailed record keeping.
6. "The formal structure represents the deliberate intent of management to prescribe the process that will take place among the members of the organization. In the typical work organization this takes the form of a definition of task specialties, arranged in levels of authority, with clearly defined lines of communication from one level to the next" (16). Your answer should reflect these points in more detail.

The informal structure is made up of those relationships, unplanned attachments, and activities that have a significant effect on the formal aspects of organization. The informal organization is the actual way in which the organization operates. Your answer should provide some specific examples related to the above concept.

7. Your answer might reflect the following concept:

"a school organization is effective to the extent that it fulfills selected goals and objectives without incapacitating its members" (16).

8. Such characteristics include:

- a. provisions for interdisciplinary teaching and learning;
- b. provisions for individualizing instruction;
- c. provisions for joint occupancy;
- d. time-sharing provisions;
- e. education-industry partnerships;
- f. job placement provisions;
- g. career development emphases; and
- h. cooperative education emphases.

Appendix B:

Possible Self-Check Responses

GOAL 6.1

1. Describe the characteristics of the clusters, families, or common elements of occupations approach to vocational education. (6.11)

The cluster concept is focused around the goal of preparing persons for employment in a number of different but related occupations. The cluster program tries to enable students to develop job-entry capabilities in a number of related occupations. It is based on an analysis of content common to a number of related occupations. The occupations in a cluster contain a variety of mental and manual skills appropriate to a variety of related occupations. Clusters also serve as a basis for more in-depth training in either a formal setting or an informal setting.

2. Describe the main characteristics of the following models of clustering used in vocational education. (6.12)

- a. The pyramid approach to clustering starts with a broad base of exploration. Each year the studies are more directed and in-depth until finally one occupation or segment of an occupation is studied. In Grade 10, four occupational areas are usually studied; in Grade 11, two occupational areas are studied; and in Grade 12, only one occupational area is studied.
- b. The vertical-hierarchical cluster model organizes content within a single occupational category but stresses the different levels of job classifications within that occupation. It is based on the idea that as one moves up the structure, different job classifications require different skills and knowledge. Students are able to determine where they fit on the ladder of skills and knowledge.
- c. The functions of industry cluster model is a broad-field model aimed at first and second level job-entry skills. It allows the student to develop job-entry skills and understanding at two different levels--those required for job-entry, and those skills needed at a point approximately six months into the program. It is a two-year, two-period per day program.

3. Describe the advantages and the disadvantages of the following cluster models used in vocational education. (6.13)

a. The pyramid cluster model

The pyramid approach permits a systematic and sequential exploratory experience in a specific occupation. It permits a student to specialize gradually, and provides for a certain amount of multi-occupational understanding and involvement. The three phases provide for exploration, development and finally, employability. The main disadvantage is that if a student drops out of school during the first or second phase, that student does not have employable skills.

b. The vertical-hierarchical cluster model

- Advantages:
- (1) Each student has the opportunity to move as high (or deep) into the levels of complexity or difficulty as his interests or abilities will permit. The whole concept of individual differences with regard to potential attainment within an occupational hierarchy is a reality in this type of program.
 - (2) Such a cluster structure also enables students with modest or low ability to find their place in a program as well as function optimally in an area of interest to the individual.
 - (3) The vertical cluster concept provides a diversity of levels of opportunity for success for a class that may have many such levels of ability, aspiration, and potential represented in the student body.
 - (4) This cluster form achieves its diversity through the versatility of the teacher and the structure of the occupational analysis that led up to the formulation of the arrangement.
 - (5) A single unit laboratory is all that is required for this form of clustering since the exploratory function is in-depth or to the extent of one's capability rather than across occupational lines.

- Disadvantages:
- (1) The hierarchical cluster requires the services of the unusual teacher who sees his task as helping each student become whatever it is possible for him or her to become within the occupational area under study.

- (2) Another major operational concern for such a cluster structure is related to the nature of the program: an occupational analysis must be conducted.
- (3) A third major operational concern in this hierarchical cluster structure centers around the difficulty and variety of instructional strategies that the teacher must develop or pursue.
- (10) Cluster Concept in Vocational Education
- (4) And, finally, since all students do not reach the same level in the hierarchy at the same time, the instructor must constantly evaluate student learning and must provide alternative learning activities.

c. The functions of industry cluster model

The main advantage is that it permits the instructor to devote full attention to a single occupational area over a specific period of time. It also assures the instructor that all students are given instruction in each separate occupational area. The disadvantages are that it demands a much larger and more complete set of tools and equipment for each unit area because it must accommodate the total class. There are also certain limitations in the kind of instructional strategies that the instructor might use that would require the skills of all the unit occupations. Record keeping and clerical aspects of teaching are also more complex in this system. In addition, there is a tendency in this module to study about occupations rather than to learn by doing.

- 4. Identify five or more concerns associated with the development or operation of a cluster program in vocational education. (6.14)

Consider the student answer correct if it includes any five of the following concerns:

- a. community-employment analysis
- b. school-adaptability concerns
- c. student interests and concerns
- d. size of student body to be served
- e. community participation in the program
- f. use of present staff and need for new instructors

- g. in-service development of staff
- h. student-skill inventory
- i. community skill-need inventory
- j. physical plan needs
- k. school organization concerns
- l. employer participation in program development
- m. student placement
- n. student follow-up

5. Develop guidelines for handling the five concerns identified in Question 4. (6.15)

(The specific response to this activity depends on the particular concerns students selected as well as their personal choice of program selection, organization, and management. If you have any questions regarding student answers, check pages 215 to 231 in Cluster Concept in Vocational Education by Donald Maley.)

6. Describe the major advantages and disadvantages of the unit shop area of specialization approach to vocational education. (6.16)

Advantages:

- a. It provides an in-depth study of one subject.
- b. The number of machines required is limited.
- c. Instructors can be specialists.
- d. Students can usually learn a skill well enough to be employable upon graduation.

Disadvantages:

- a. Students do not have an opportunity to explore related occupations.
- b. If the wrong skills are being taught, students are totally unemployable.
- c. Only a limited number of occupations can be offered by any one school.

7. Describe the characteristics of the work-study approach to organizing vocational education by answering the following questions. (6.17)

- a. What is the meaning of the term work-study as it is used in vocational education?

Work-study refers to a method of instruction in which students can attend school and also work parttime in a paying job. There is usually no classroom instruction related to the work experience, but students do have objectives they are trying to accomplish. Usually an effort is made to ensure that the student is working in a field that will give him experience in his chosen vocational area.

- b. What are the major characteristics of a work-study program?

The important characteristics of a work-study program include the following:

- (1) Students work as much as four hours per day in a paying job.
- (2) There is minimal adult supervision.
- (3) Student objectives outline the purpose of the work-study experience for the student.
- (4) Students learn valuable skills in the occupation of their choice.
- (5) Students learn entry-level skills and explore related occupations.

- c. What are the major differences between work-study programs and cooperative programs?

Cooperative work programs provide students with parttime employment that is closely related to and integrated with classroom instruction. It is closely supervised by a school instructor. Students usually get school credit for their work experience.

Work-study programs, on the other hand, provide work experience and the opportunity to earn money, but the work experience is not integrated into the school curriculum. There is usually very little supervision by the school staff, and there is no credit for the work experience.

Because of the close supervision and the follow-up experiences in the school, cooperative work programs are usually considered preferable. They are, however, more expensive and time consuming to administer.

8. Describe the characteristics of the cooperative approach to organizing vocational education programs by answering the following questions. (6.18)

- a. What is the meaning of the term cooperative education?

Cooperative education is defined as education in which classroom theory and practical work experience are integrated in such a way that students attend school at specific times and work at specific times. The work experience is closely related to the student's course of study and interest.

- b. What are the major characteristics of a cooperative education program?

The important characteristics of cooperative education include the following:

- (1) The student's work is related to his field of study and vocational choice.
- (2) The employment must be considered to be a regular, continuing, and essential element in the educational process. Some minimum standard of performance must be included in the requirements for successful completion.
- (3) The work experience will ideally increase in difficulty and responsibility as the student progresses through the academic curriculum

- c. What are the major student, instructor, and administrative problems or organizational difficulties usually associated with cooperative education programs?

Difficulties and disadvantages that often occur include the following:

- (1) Job placement does not always relate directly to the academic needs of the student.
- (2) The school instructor cannot control the work experiences, and certain valuable experiences may never occur.
- (3) Laws regarding heavy and dangerous equipment do not allow students under the age of 18 to accept certain jobs in industry that would be very useful in their fields.
- (4) Occasionally employers put students into a job that is restricting and students do not have an opportunity to learn a variety of skills or to explore other related occupations.

9. The following items test your knowledge of the intelligent and systematic selection of curriculum materials. Complete the sentences by filling in the blanks.

- a. Well-defined _____ can guide and direct the educator in selecting curriculum materials and experiences. (6.2)

standards / criteria

- b. Curriculum content is _____ to the extent that it reflects contemporary knowledge and methods. (6.21)

valid

- c. Valid vocational education curriculum must facilitate the achievement of at least two objectives: (1) vocational education curriculum must _____; and (2) vocational education curriculum must _____. (6.21)

(1) prepare people for employment

(2) prepare needed manpower for available jobs

- d. In addition to the above mentioned considerations for determining curriculum validity, one must also consider the extent to which the curriculum provides for fundamental _____ and _____ and _____ needs of an individual and society. (6.21)

skills and attitudes

occupational competency

10. A relevant vocational education curriculum is one which is consistent with _____. (6.22)

personal, occupational, and social realities (may also include economic and/or labor market)

11. Answer "true" or "false" to the following statements.

 T a. One way to ensure a relevant vocational education curriculum is to require that the curriculum include close cooperation with business and industry. (6.22)

 F b. Vocational education has been criticized for "overeducating" large numbers of people. (6.22)

 T c. If all curriculum were relevant and valid, as defined in this module, the problem of "overeducation" would be diminished. (6.22)

12. A curriculum which provides for a wide range of objectives with general applications is said to have _____. (6.23)

breadth

13. Give an example of the curriculum concept described in Question 12. (6.23)

cluster approach

14. A curriculum that emphasizes specific objectives for a specific task has more _____ than _____. (6.23)

depth

breadth

15. Give an example of the curriculum concept described in Question 14. (6.23)

job/task analysis approach

16. Headings that provide organization to curriculum materials by identifying who the materials are for, what items the materials include, and the sections into which the materials are divided are called _____. (6.24)

curriculum designators

17. Give four examples of the headings referred to in Question 16. (6.24)

The student answer might include any four of the following: Instructor Guide, Student Guide, Student Guide with directions for teacher use, Self-Study Guide for students, self-contained materials for students, theory approach, application approach, objectives for students, objectives for teachers.

18. What should be one of the major characteristics of a secondary program in view of the fact that high school represents a termination of formal education and training for some students? (6.31)

It should be "preventive."

19. _____ should be considered a supplement to and an extension of the secondary vocational education program. (6.31)

The area vocational school

20. Name three aspects that are (or should be) considered essential characteristics of secondary vocational education. (6.31)

cooperative education, placement, youth organizations

21. Answer "true" or "false" to the following statements.

F a. It is not a function of the community college to be concerned with providing programs for unemployed adults who have skills but are not working. (6.32)

T b. Considerable evidence supports the contention that the community college is becoming an "all-purpose" institution. (6.32)

T c. One way to meet the needs of a diversified student population such as contained in the community college is to provide for curriculum alternatives. (6.32)

22. What are four formal aspects of institutional organization that directly or indirectly influence the curriculum? (6.41)

The student answer should include at least four of the following:

1. class schedule, fixed form
2. hierarchy of authority and decision making
3. specialized personnel and tasks
4. clearly defined responsibilities and relationships
5. established norms of conduct
6. required detailed recordkeeping

23. What are two informal aspects of institutional organization that directly or indirectly influence the curriculum? (6.42)

1. Informal arbitrary relationships and attachments that effect response to authority, decision making, formal relationships, and conduct of responsibilities.
2. Informal aspects of organization describe the "real way" an institution functions as opposed to the way it is supposed to function.